THE DEMAND FOR DOG GUIDES

AND THE TRAVEL ADJUSTMENT OF BLIND PERSONS

by

SAMUEL FINESTONE
IRVING F. LUKOFF
MARTIN WHITEMAN, PH.D.

RESEARCH CENTER
THE NEW YORK SCHOOL OF SOCIAL WORK
COLUMBIA UNIVERSITY

1960

HV1709
F

M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

15 WEST 16th STREET
NEW YORK, N. Y., 10011

c. 2

THE DEMAND FOR DOG GUIDES

AND THE TRAVEL ADJUSTMENT OF BLIND PERSONS

by

Samuel Finestone
Irving F. Lukoff
Martin Whiteman, Ph.D.

RESEARCH CENTER
THE NEW YORK SCHOOL OF SOCIAL WORK
COLUMBIA UNIVERSITY

1960

HV1709
F
copy two

Acknowledgment is made to
The Seeing Eye, Inc., Morristown,
New Jersey, for its support of
the research in this study and
the publication of this report.

This study has been conducted
under the auspices and administration
of the Research Center of the New York
School of Social Work, Columbia University.

Price $2.00

Copyright, 1960, by Research Center, The New York School of Social Work,
Columbia University

Printed in New York City, July, 1960 by the Equity Press, Inc.

ACKNOWLEDGMENTS

The complex tasks involved in this research could not have been completed without the generous and valuable assistance of a great many persons and agencies. The indispensable contribution of those named below, and numerous others unnamed, is gratefully acknowledged.

Miss Fern Lowry, Research Associate, and Mrs. Mardean Ryan, Research Assistant, members of the research team, served the study with perspective and skill.

The New York State Commission for the Blind, through Commissioner M. Anne McGuire and others of her staff actively supported the research in many ways. Access to necessary data made possible the selection of a representative sample of blind persons in New York State. The Commission cooperated in an approach to blind persons which safeguarded confidentiality of records and facilitated cooperation from respondents.

The New York State Department of Social Welfare, Bureau of Research and Statistics, through its Director, Dr. David M. Schneider and Miss Sadie Zuchovitz of its staff, graciously and efficiently made special statistical tabulations which were basic in planning the field interview sample.

The American Foundation for the Blind was a source of help in many ways. General perspectives and guidance were made available through conferences with its staff. Miss Kathern F. Gruber, Director, Division of Research and Specialist Services, shared her broad experiences, and gave direct assistance freely and wisely at many points in the research. Mr. Alexander F. Handel, Director of Division of Community Service, made available and discussed the important community surveys carried on by the Foundation. The effective efforts of Dr. Milton Graham, Director of the Bureau of Research and Statistics, continue to be directed to facilitating and extending our research into aspects of blindness. Others presently or formerly associated with the Foundation staff have been helpful: Miss Helge Lende, Librarian, Dr. Alan Gowman, Dr. Janice Harris and Dr. Nathaniel J. Raskin, among others.

The *National Society for the Prevention of Blindness,* through its Assistant Director, Mrs. Virginia Smith Boyce and Miss C. Edith Kerby, former Associate for Statistics and Analysis, provided valuable statistical and other background information.

A great many individuals gave necessary cooperation. Dr. Frank W. Newell, Secretary, *National Committee for Research in Ophthalmology and Blindness,* participated in the planning and sponsorship of an inquiry into the policies

and practices of ophthalmologists relevant to the rehabilitation of blind persons. Mr. Hulen Walker, now Executive Director of the *American Association of Workers for the Blind,* similarly participated in a study of travel services to blind persons.

Colleagues at the New York School of Social Work, Columbia University, and the Research Center, gave wise guidance and supportive interest. Dr. Nathan E. Cohen, formerly Associate Dean, and now Dean of the School of Applied Social Sciences, Western Reserve University, and Dr. John G. Hill, formerly Director of the Research Center, were two of those whose consultation contributed to the research. Four students completed Master's theses of direct relevance to the ongoing research. Their work is described in the body of the report. These students included Mr. Sherman Barr, Mrs. Joyce B. Keld, Miss Helen Corbett and Mrs. Margaret Rich.

The forty-five persons who conducted the interviews with five hundred blind persons brought backgrounds of professional training in social work and long professional experience upon which the quality of the interviews depended. The interviewers made a skilled and indispensable contribution.

The efforts of all those mentioned above, and those of the research staff, would have been unavailing without the cooperation of the respondents. To the more than five hundred blind persons interviewed in the field survey, to the nearly two hundred ophthalmologists, over one hundred in agencies serving blind persons, and to the executive staffs of eleven training centers for dog guide travel, who gave time and thought in responding to mail questionnaires, thanks are due for providing the data upon which the research is based.

The secretary to the project, Mrs. Dorothy Goldman, was an essential contributor to the total research, valued for her productive and thoughtful efforts. Mrs. Beatrice Taishoff, Secretary to the Research Center, also made a necessary administrative and secretarial contribution.

It is no mere ceremonial observance that dictates the mention of Board and Administrative Staff of *The Seeing Eye, Inc.,* among those who contributed to the research. The Seeing Eye was not only the initiator and sponsor of the research, but an active and cooperative participant. Its records were made available freely, opportunities were provided for prolonged periods of observation of its program, and a variety of services were generously made available through the good offices of Mr. George Werntz, Jr., Executive Vice President and Secretary. The decision on the part of a service agency to seek independent research answers to service questions makes possible a broad contribution to the welfare of blind persons.

FOREWORD

This study had its origin in the desire of The Seeing Eye, Inc., for a scientific study of questions confronting that institution and the dog guide field as a whole. The Seeing Eye, the oldest and largest training center for dog guide use, has given major leadership to the dog guide field for more than a quarter of a century.

A central question called for an estimate of the need for dog guide training in relation to the existing resources. Other corollary questions were involved, to be described later in the report.

At the suggestion of the Russell Sage Foundation, The Seeing Eye brought these questions to the Research Center of the New York School of Social Work, Columbia University. A six-month pilot study was directed by Dr. Jacob Bunzell, with an advisory committee of School faculty. A report of June 1956, entitled "The Use of Dog Guides in the Rehabilitation of the Blind," prepared by Dr. Alfred J. Kahn, outlined a series of preliminary conclusions and set forth a proposal for a two-year study which was adjudged of interest to the Research Center and to The Seeing Eye.

The study was independently designed, executed and reported upon by the Research Center. Financial support of both the pilot study and the subsequent research program was provided by The Seeing Eye from a special research fund established by that organization with a grant received from the Estate of Alfred H. Caspary.

An earlier report was prepared by Samuel Finestone, Project Director; Irving F. Lukoff, Research Associate; and Martin Whiteman, Ph.D., Research Associate. The report was rewritten for publication by the Project Director.

The current report is directed to all those concerned with service to blind persons.

TABLE OF CONTENTS

PAGE

Acknowledgments iii

Foreword v

CHAPTER I — The Scope of the Study 1
  1.1 Objectives 1
  1.2 The Literature of Travel Adjustment Among Blind Persons 3

CHAPTER II — The Design of the Study 7
  2.1 General Strategy 7
  2.2 Ascertaining Factors Associated with Successful Dog Guide Use 8
  2.3 Sample Design 9
  2.4 Interview Schedule 12
  2.5 Scaling Procedures Used in Analysis 13
  2.6 Statistical Significance 14

CHAPTER III — The Potential Demand for Dog Guide Training 15
  3.1 Introduction 15
  3.2 Criteria Measuring Potentiality for Dog Guide Training 16
  3.3 The Application of the Criteria to the Sample 21
  3.4 Demand and Resources for Dog Guide Training 28

CHAPTER IV — Background of Reservoir Groups 32
  4.1 Introduction 32
  4.2 Other Background Characteristics of Reservoir Groups 32
  4.3 Summary 34

CHAPTER V — Aspects of the Travel Adjustment of Blind Persons 36
  5.1 Introduction 36
  5.2 Travel Performance and Visual Perception 38
  5.3 Travel Performance and Mode of Travel 43
  5.4 Concern with Travel 50
  5.5 The Decision Process in the Choice of Mode of Travel 52

CHAPTER VI — Influences Related to the Consideration of Dog Guides 59
  6.1 Introduction 59
  6.2 Perceptions of Dog Guides by Respondents 59
  6.3 Reasons Reported for Not Obtaining Dog Guides 64
  6.4 Personal Influences and the Consideration of Dog Guides 66
  6.5 Mass Media and the Consideration of Dog Guides 78

TABLE OF CONTENTS *(Contd)*

PAGE

CHAPTER VII — The Conclusions of the Study........................ 83
- 7.1 Introduction 83
- 7.2 Potential Demand and Resources for Dog Guide Training...... 84
- 7.3 Background and Personality Characteristics of Reservoir Groups.. 86
- 7.4 Aspects of the Travel Adjustment of Blind Persons........... 86
- 7.5 The Consideration of Dog Guides........................... 90
- 7.6 Characteristics of Dog Guide Users......................... 92
- 7.7 Major Findings in Outline................................ 96

CHAPTER VIII — Directors for Service.............................. 97
- 8.1 Introduction 97
- 8.2 Resources for Dog Guide Training.......................... 98
- 8.3 Improvement of Travel Adjustment......................... 99
- 8.4 Dog Guides and the Field of Service for Blind Persons......... 100
- 8.5 Influencing the Demand for Dog Guides..................... 102

APPENDICES
- A. Construction and Representativeness of the Sample............ 104
- B. Guttman and Cumulative Scales............................ 112
- C. Projection of Sample Rates............................... 128

BIBLIOGRAPHY 129

LIST OF TABLES

TABLE PAGE

3.1 Percentages in Negative Categories of Criteria for Dog Guide Training...... 22
3.2 Negative Characteristics Related to Reservoir Group Composition............ 25
3.3 Percentages in Health Categories for Primary Modes of Travel................ 26
3.4 Percentages in Hearing Categories for Primary Modes of Travel............... 27
3.5 Percentages in Visual Acuity Categories for Primary Modes of Travel........ 27
3.6 Percentages in Vision Categories for Primary Modes of Travel.............. 27
3.7 Percentages in Travel Vision Categories for Primary Modes of Travel........ 28
3.8 Percentages in Intelligence Categories for Primary Modes of Travel........... 28
3.9 Percentages in Emotional Instability Categories for Primary Modes of Travel.. 28
3.10 Distribution of Adjusted and Unadjusted Samples of Reservoir and Non-Reservoir Groups 29
3.11 Estimated Reservoir in N.Y. State and Continental United States Available for Dog Guide Training.. 30
3.12 Estimated Demand and Resources for Dog Guide Training................... 31
4.1 Social Class Levels of Dog Guide Users, Reservoir and Non-Reservoir Groups.. 34
4.2 Educational Levels of Dog Guide Users, Reservoir and Non-Reservoir Groups.. 35
4.3 Employment Status of Dog Guide Users, Reservoir and Non-Reservoir Groups.. 35
4.4 Sex Distribution of Dog Guide Users, Reservoir and Non-Reservoir Groups.... 35
4.5 Geographic Location of Dog Guide Users, Reservoir and Non-Reservoir Groups. 36
4.6 Age Distribution of Dog Guide Users, Reservoir and Non-Reservoir Groups.... 36
5.1 Travel Mode by Visual Perception Score..................................... 42
5.2 Travel Frequency by Visual Perception Score................................ 42
5.3 Travel Extensiveness by Visual Perception Score............................ 43
5.4 Travel Independence by Visual Perception Score............................ 43
5.5 Travel Efficiency by Visual Perception Score................................ 43
5.6 Percentages of Primary Travel Mode Groups at Frequency Levels, by Visual Perception 48
5.7 Percentages of Primary Travel Modes at Travel Extensiveness Levels, by Visual Perception 48
5.8 Percentages of Primary Travel Mode groups at Travel Independence Levels, by Visual Perception 49
5.9 Percentages of Primary Travel Mode Groups at Travel Efficiency Levels, by Visual Perception 49
5.10 Satisfaction with Travel Performance, by Visual Acuity..................... 51
5.11 Motivation Re: Travel Change.. 51
5.12 Amount of Thought Given to Choice of Current Travel Mode............... 52
5.13 Reasons Given for Adopting Present Mode of Travel........................ 57
5.14 Amount of Thought Given to Choice of Travel Mode by Type of Mode, for Trained and Untrained Respondents....................................... 57
5.15 Reasons for Choice of Travel Mode for Trained and Untrained Respondents.... 58
5.16 Type of Personal Influences Reported by Respondents....................... 58
5.17 Type of Influence by Type of Person Influencing Choice of Travel Mode...... 58
6.1 Respondent Choices Among Modes of Travel................................. 60
6.2 Respondents' General Attitudes Toward Dog Guides......................... 62
6.3 Respondents' Estimate of Public Image of Dog Guides...................... 63
6.4 Respondents' Estimate of Reaction of Family and Friends to Dog Guides...... 63

LIST OF TABLES *(Contd)*

TABLE PAGE

6.5 Attitude to Care and Maintenance of Dog Guides 63
6.6 Appropriateness of Respondents' Situation for Dog Guides 63
6.7 Respondents' Desire for Dog Guide 64
6.8 Reasons Given by Respondents for Postponing Plans to Obtain Dog Guides 65
6.9 Reasons Given by Respondents for Changing Original Decision to Obtain Dog Guides 66
6.10 Reasons Given by Respondents for Never Considering Dog Guides 66
6.11 Coverage and Favorableness Indices for Categories of Persons Discussing Dog Guides with Respondents 69
6.12 Classification of Comments about Dog Guides Attributed to Categories of Persons 71
6.13 Coverage and Favorableness Indices of Discussion with Categories of Persons, in Relation to Consideration of Dog Guides 74
6.14 Amount of Thought Given to Choice of Travel Mode in Relation to Discussion of Dog Guide Use 76
6.15 Discussion of Use of Dog Guide in Relation to Consideration of Dog Guides 76
6.16 Amount of Discussion of Dog Guide Use in Relation to Extent of Misinformation about Dog Guides 77
6.17 Percentage of Respondents who Recall Printed, Radio or TV Material about Dog Guides 82
6.18 Consideration of Dog Guides in Relation to Exposure to Mass Media about Dog Guides 82
6.19 Consideration of Dog Guides in Relation to Comparative Impact of Reading and Radio-Television 83
A.1 Ratio of New York City Blind to Non-New York City Blind in Population and Sample 106
A.2 Distribution of Blind Population in Five New York City Boroughs and Proportion of Sample 106
A.3 Derivation of New York City Random Samples, by Borough 107
A.4 Comparison of Sample Counties to All New York State Counties on Demographic Variables 108
A.5 Comparison of Sample Counties to All New York State Counties on Race and Ethnic Origin 109
A.6 Comparison of Sample Counties to All New York State Counties on Age at Time of Registration 110
A.7 Comparison of Sample Counties to All New York State Counties on Visual Acuity 110
A.8 Comparison of Sample Counties to All New York State Counties on Employment Status of Blind Persons 110
A.9 Chi Square Tests of Difference between Total Population of New York State and Obtained Sample of Blind Persons 111
C.1 Estimates of Reservoir Components for New York State and Continental United States 128
C.2 Estimates of Reservoir for New York State and Continental United States by Sex and Age 128

THE DEMAND FOR DOG GUIDES
AND THE TRAVEL ADJUSTMENT
OF BLIND PERSONS

Chapter I

THE SCOPE OF THE STUDY

1.1 Objectives

The research questions and program to be presented originated in a search for administrative direction on the part of The Seeing Eye, Inc., the leading center of training for dog guide use by blind persons. Information was needed as to what volume of services to plan for, how the demand for dog guide training could be influenced and what, if any, directions of service were indicated. Such information is relevant for the dog guide training field as a whole. Although for different reasons, such information is also of interest to other agencies serving blind persons and the public which has generously supported dog guide services.

In addition to administrative research objectives, there was interest in making a contribution to knowledge about blind persons. Thus, where feasible, broader objectives were incorporated into the research program. Basic information as to selected characteristics of blind persons, especially concerning travel adjustment, was sought to add to the scanty amount of empirical data available to the general field of service to blind persons.

These objectives led to a number of research questions:

1. *What are the qualifications for potential users of dog guides?* Answers to this question were essential if any estimate of the volume of qualified demand was to be made. Several aspects of this question were involved. Thus it was necessary to ascertain what admission requirements for dog guide training were in administrative use. It was also essential to go beyond this question and to ask further what factors actually discriminated between successful and unsuccessful dog guide users. Finally, it was important to ascertain what factors differentiated between dog guide users and non-users in the blind population.

2. *What is the amount and nature of qualified potential demand for dog guide training?* As to the *amount* of qualified demand, it was necessary to ascertain both the proportional and absolute numbers of blind persons potentially available for dog guide training in New York State (the population from which the sample population was

drawn). From these figures, it was necessary to estimate potentials for the blind population of the United States. For maximum administrative usefulness, it was also necessary to specify the *nature* of qualified potential demand. It was important to ascertain the numbers and proportions most readily available for dog guide training, unavailable for dog guide training, and possibly available for dog guide training if certain remedial information and services, or both, were given.

3. *What is the volume of existing services?* This question implied the need for information as to the capacity of centers for dog guide training, the actual volume of training, and the characteristics of the waiting lists for such services. It implied also some consistency of quality among existing centers, although no qualitative analysis as such was endeavored.

4. *What factors influence blind persons in the choice of the dog guide as a mode of travel, and what is the nature of the influence?* Involved in this question were investigations both from the points of view of those influenced (blind persons) and those who provided a source of influence. Thus it was necessary to ask what sources of information concerning dog guides were utilized by blind persons, how they thought the information affected them and what beliefs they held. It was also necessary to select certain influential groups (agency personnel and ophthalmologists) and to find out what beliefs and attitudes toward travel adjustment and travel modes were held.

5. *What is the travel adjustment of blind persons?* In the course of answering questions bearing upon potential demand for dog guide use by qualified blind persons, it was necessary to inventory the extent and frequency of travel, as well as a variety of social and psychological considerations related to travel. Thus, the presentation of data bearing upon travel adjustment became one of the aims of the study.

6. *What administrative implications are suggested by answers to the questions listed above?* A variety of implications were derived in relation to planning for the estimated volume of needed dog guide services and in relation to recruitment efforts and program modifications on the part of dog guide training centers. Issues as to standards for the dog guide field emerged. Other implications for

service to blind persons similarly were suggested by the findings and made available for presentation.

Although the research program was in large part geared to administrative issues, it should be clear that research findings are not the only factors in policy decisions. Factors are involved in administrative policy for the dog guide training field which are beyond the scope of the current research. Further, there are value issues which cannot be settled by research alone. Nevertheless, factual information, scientifically arrived at, is necessary to wise policy-making, even if not entirely sufficient thereto.

The research program was also planned to make some contributions to general knowledge concerning blind persons. Although a wealth of basic data is available through this study, additional analysis would be needed to realize its full potentialities. The current report deals with matters more immediately related to travel adjustment and dog guide training rather than to the general social and psychological adjustment of blind persons.

1.2 The Literature of Travel Adjustment Among Blind Persons

In this section the literature most directly relevant to travel adjustment among blind persons, and particularly to the dog guide mode of travel, will be reviewed. Extensive literature, though not much formal research, has been produced dealing with the general social and emotional adjustment of blind persons, from sociological, psychological, social casework and psychiatric points of view. Such material has been summarized in general works dealing with the nature of blindness, and will not be summarized here.[1]

The literature dealing with the travel adjustment of blind persons is of two kinds: a few reports of formal research, on the one hand, and a large amount of historical and descriptive material on the other. This latter type of material is generally based on reviews of agency programs, reports of conferences, or reviews of the literature.

Examples of this latter type of material may be mentioned. Historical accounts of the dog guide movement have appeared since the 1930s and are listed in a standard bibliographical guide to the literature.[2] Two sources might be mentioned within the last ten years, both written by persons with early associations with The Seeing Eye, Inc.[3] Other recent material describes aspects of dog guide training and use, mainly related to The Seeing Eye, Inc.[4] Pamphlets have been distributed describing the programs of a few dog guide schools. Those distributed by The Seeing Eye, Inc. are most comprehensive and numerous.

---

[1] An extensive summary and bibliography are included in a monograph prepared by the research team. See Finestone, Samuel. Ed., *Social Casework and Blindness* (New York, American Foundation for the Blind, 1960).

Articles and pamphlets describing cane training programs are quite numerous, and are listed in the standard bibliography by Lende.

A series of three publications report conferences concerned with principles and standards related to travel adjustment and travel training programs in rehabilitation centers.[5] However, no more than a bare mention is made of the dog guide mode of travel. The Seeing Eye was a participant in two of these conferences. Assumptions and curricula for orientation and cane travel are elaborated in these reports.

Of more direct interest are the reports of research related to the travel adjustment of blind persons. Some reports are listed in a general review and bibliography.[6] Some selected references dealing, among other subjects, with "facial vision," and guidance devices are given in the bibliography of a publication of the Office of Vocational Rehabilitation.[7]

---

[2] Lende, Helga. *Books About the Blind* (New Rev. Ed.) New York: American Foundation for the Blind, 1953.

[3] Ebeling, W. H. "The Guide Dog Movement" *Blindness,* ed. by P.A. Zahl, (Princeton, New Jersey: Princeton University Press, 1950) pp. 366-377.
Frank, Morris and Clark, Blake. *First Lady of the Seeing Eye,* (New York: Henry Holt & Co., 1957).

[4] Chevigny, Hector. "A User's View of the Dog Guide as a Travel Aid" *Blindness* (op cit pp. 378-385).
A chapter entitled "Using a Dog Guide" appears in Julia Bindt, *A Handbook for the Blind* (New York: Macmillan Co., 1952).
A very brief account appears in Gabriel Farrell, *The Story of Blindness* (Cambridge, Mass: Harvard University Press, 1956).

[5] *Adjustment and Prevocational Training for the Blind: A Symposium conducted at the Conference of State Workers for the Blind at Pottsville, Pa., September, 1948.* (Washington, D.C.: Federal Security Agency, Office of Vocational Rehabilitation, O.V. 12 33:88:A:53; March 1949).
Adjustment Centers for the Blind: Findings of the Spring Mill Conference, February, 1951, ed. by Clara Langerhans and Henry Redkey (New York: American Foundation for the Blind).
Rehabilitation Centers for Blind Persons: Report of Seminar, New Orleans, Louisiana, February, 1956. Editorial Committee, H. B. Aycock, Arthur L. Voorhees, Kathern F. Gruber (Washington, D.C., U.S. Dept. of Health, Education and Welfare, Office of Vocational Rehabilitation).

[6] Raskin, Nathaniel J. and Weller, Marian F. *Current Research in the Work for the Blind: A Survey* (New York: American Foundation for the Blind, October 1953).

There are three research studies which give a fairly comprehensive picture of the adjustment of blind persons, including travel adjustment and are based on sufficiently large samples to be of interest. A study by Bauman is based on a sample of 450 blind persons known to agencies in Pennsylvania and six nearby states.[8] Another is based on a study of nearly 2,000 war-blinded veterans.[9] The third consists of a continuing series of surveys of all blind persons known to agencies in selected communities and states carried on by the American Foundation for the Blind.

It should be noted that these surveys are all based on special populations; either blind persons known to agencies, or veterans. Inasmuch as these special groups are not representative of the more general population from which dog guide training centers would draw applicants, need for dog guide training cannot be estimated from the populations defined in these studies. A different sampling design, such as that developed in the current study, which includes agency and non-agency users, is necessary.

The study of war-blinded veterans and the Bauman study were based both on review of agency records and interviews. The American Foundation for the Blind community surveys are based upon schedules completed by workers in agencies from review of records.

Some of the findings of these studies may be cited. In the study of war-blinded veterans, 144 of 1,949 studied (slightly over 7%) were dog guide users.[10] Of these 144, all but three were reported satisfied with the mode of travel. Only two dog guide users had partial sight, one of these dissatisfied with his dog guide. Not quite half of the dog guide users were employed (47.2%) as compared with the lesser percentage of 41.9% of those without useful sight among non-dog guide users. Proportionately, more dog guide users were in the high school group; fewer in the elementary school group; and equally in the college group. Other differences in adjustment were not found.

---

[7] Research Suggestions on Psychological Problems Associated with Blindness prepared by National Psychological Research Council for the Blind (Washington, D.C., Federal Security Agency, Office of Vocational Rehabilitation, undated).

[8] Bauman, Mary K. *Adjustment to Blindness* (State Council for the Blind, Pennsylvania, 1954).

[9] War Blinded Veterans in a Postwar Setting; (Veterans Administration, Washington, D.C., 1958).

[10] These figures, and the others cited, are from "War Blinded Veterans in a Postwar Setting," Ibid, p. 31 and Table 28, p. 121.

In the Bauman study, there were 32 dog guide users out of the 422 for whom information as to travel mode was available, again about 7%. These dog guide users came from totally blind or markedly restricted vision groups to a larger extent than non-dog guide users. As measured by a series of tests, they showed significantly more positive results than other blind persons with respect to stability, social competence, security, and attitudes to blindness. A greater proportion desired independent travel, and the general travel mobility was higher. The reasons for these differences in favor of dog guide users cannot be fully established. The selectivity of dog guide schools, which screen out older persons, those with marked physical and emotional difficulties, and those without definite motivation for travel, may account in large part for such differences.[11]

Some general findings of the Bauman study are also of interest, particularly those that indicate that 64% of persons without travel vision are homebound, or travel only in familiar places.[12] The existence of a large proportion of blind persons not traveling up to physical capacity is thus suggested, particularly when it is reported in the same study that about 90% rate themselves in good or average health.[13]

The findings of the community surveys of the American Foundation for the Blind have not been summarized as a whole. However, it is clear from a perusal of the separate studies that a large proportion of blind persons do not travel up to capacity, and that among this number are those with vision about 10/200 at the upper end of the visual handicap scale. Few dog guide users appear in the sample studied, generally one percent or less.

An investigation of particular interest to the current research was completed by a legislative committee and reported to the 54th Legislature of Texas.[14] The committee was concerned with the possible need for a dog guide training center in Texas. In the course of its activity, the legislative committee acquainted itself with the dog guide field, collected and analyzed statistics of the blind population, and conducted a poll-type questionnaire of 350 recipients of Aid to the Blind in Texas. Informal and rough estimation procedures were utilized in attempting to assess the reservoir of potential dog guide users.

---

[11] Mary K. Bauman, Ibid, p. 105 and passim.

[12] Ibid, p. 66.

[13] Ibid, p. 66.

[14] Texas Legislative Council, *A Study of the Feasibility of Initiating a Guide Dog Program for the Texas Blind,* (Austin, Texas, 1956).

The published report does not make a clear recommendation one way or the other as to the need for establishing a state-supported school for dog guide training in Texas. However, the report seriously questions the need for such a school.

Chapter II

THE DESIGN OF THE STUDY

2.1 General Strategy

The central emphasis of this study marks it as a needs-resources study. Basically, the problem is to estimate the extent and nature of effective demand for a particular service—training in the use of dog guides—and to compare the estimated demand with the extent of available resources.

The logic of the statistical estimation of the reservoir of potential dog guide users may be broadly outlined as follows:

1. Characteristics associated with successful dog guide use are ascertained. These characteristics are built into an interview schedule for assessing need, capacity, motivation and situational factors relevant to dog guide use by blind individuals.
2. A relevant population of blind persons is defined and located, and a representative sample constructed and drawn.
3. Interviews are held with the sample population, and the data analyzed to produce figures as to the number and proportion in the sample who are:
    - *a.* Definitely in the reservoir of potential dog guide users;
    - *b.* Possibly in the reservoir under certain conditions;
    - *c.* Definitely excluded from the reservoir.
4. Sample findings are projected to the total population to reach estimates of total demand.
5. These estimates are compared with information as to the extent of available resources for training in dog guide use.

Although the estimation purpose is central, there are other study objectives. As the research questions indicate, there is interest in information as to the process and influences involved in the selection of a mode of travel adjustment. These additional questions are investigated through items built into the interview schedule, and through subsidiary studies to be described later.

The sections which follow describe the research procedures utilized in ascertaining criteria for dog guide training (Section 2.2), designing the sample to which the criteria are to be applied (Section 2.3), constructing the interview schedule into which the criteria are built (Section 2.4) and analyzing the results (Section 2.5).

2.2 Ascertaining Factors Associated with Successful Dog Guide Use

The approach selected to establish criteria for effective dog guide use was manifold. One of the essential tasks was to find out what criteria were reportedly used in all eleven dog guide schools in operation in 1957. Such administratively determined admission requirements were obviously important, though they represented only one aspect of the problem. A mail questionnaire survey was conducted, and the responses made possible a composite statement of criteria generally considered necessary for competent dog guide users by training centers.

Another approach to this type of inquiry is that of first hand assessment of the requirements of the master-dog relationship. To this end, a research team was located at The Seeing Eye and made direct and systematic observations throughout the period of a class cycle, approximately one month. In addition to observation, both formal and informal interviews were held with all the students and staff involved in training, individually and in groups. Tests of psychological characteristics were devised and carried out with students. Thus insights were gained as to the way physical and psychological characteristics affected the course of training of students.

A third approach was taken by a statistical analysis of the records of 157 former students of The Seeing Eye. These constituted a random sample of all records for the period May 1943 to May 1956. In addition the records of *all* students who failed to complete training satisfactorily, and who were not given dog guides, during the period May 1939 to May 1956 (43 in number) were examined. The strategy of the study was to ascertain characteristics differentiating less and more "successful" candidates for dog guide training. Five degrees of relative success were defined.[1]

The next step was to rate each of the records on a variety of background factors, vocational and social adjustment, physical status, visual acuity and performance during training. Comparisons of the ratings characterizing each of the "success" groups was made. In this way, characteristics presumptively related to effective dog guide use were located. One of the substantial difficulties in this analysis was the small number of those in the "less successful" groups, a condition which made definite comparisons difficult.

Two other small scale studies provided information as to characteristics of dog guide users. One of these was based on medical records, application forms and counsellor reports of 25 dog guide users and 100 non-users in a vacation camp for blind persons.[2] A second study consisted of intensive interviews with 21 dog guide users.[3] These subsidiary studies provided the basis for decisions as to factors to be assessed through interviews with a large sample of blind persons.

Since the sample included a number of successful dog guide users, it was possible to validate the criteria for effective dog guide use by testing the extent to which they differentiated dog guide users from the rest of the sample. The findings of these studies will be presented at appropriate points.

2.3 Sample Design[4]

A representative sample of blind persons is essential to provide an accurate base for estimating the extent of potential demand for dog guide training. Also, since the entire country is served by dog guide schools, a national sample is desirable.

---

[1] 1) *High Success* (training completed, dog guide used for at least a year without apparent difficulty).
2) *Considerable Success* (training completed, dog guide used for at least a year with minor difficulties in handling easily resolved through correspondence).
3) *Moderate Success* (training completed, dog guide used for at least a year with considerable difficulties in handling which are resolved by retraining).
4) *Post-Training Failure* (training completed, dog guide given to student, but later dog is returned to school by student).
5) *Training Failure* (student drops out before completion of training, is not given a dog guide).

[2] Corbett, Helen and Keld, Joyce. "A Comparison of Adjustment in Blind Guide Dog Users and Non-Users, A Study of Records in Vacation Camp for the Blind." Master's Thesis, New York School of Social Work, Columbia University, May 1957, Unpublished.

[3] Barr, Sherman. "The Use of the Guide Dog as Reported by 21 Campers at Vacation Camp for the Blind," Master's Thesis, New York School of Social Work, Columbia University, May 1957, Unpublished.

[4] This section will present the sampling plan in skeleton form. An extended discussion appears in Appendix A.

However, certain facts make it impossible to construct a national sample plan with any expectation of representativeness. One theoretical possibility is to sample from a national source list of blind persons. However, no national list exists, and very few states possess accurate and comprehensive registers of the names and addresses of persons certified as blind. A second theoretical possibility is to sample the entire national population, as is done in opinion polls and special census surveys, in the expectation of picking up sufficient numbers of blind persons. This approach is ruled out by two major difficulties. The first lies in the low rates of blindness in the United States, estimated at 1.98 per thousand;[5] and very much lower if children and old people are excluded because of inappropriateness for dog guide training. Assuming that blind persons of 15 to 55 live in average size families, it would be necessary to screen some 300,000 homes before locating 1,000 blind persons, an infeasible procedure. Even more serious would be the practical difficulty of identifying persons as legally blind.[6]

It was, therefore, necessary to develop a sampling plan based on a state with an adequate register of blind persons, and project the findings to the national population. Fortunately, New York State has a compulsory registration system for all persons who fall within the generally accepted legal definition of blindness (vision 20/200 or less in the better eye after correction, or visual arc of 20 degrees or less).

As finally defined, the sample consisted of 500 blind persons listed on the official register of the New York State Commission for the Blind who were between the ages of 15 and 54 in June of 1957 and who were not institutionalized. The sample was further characterized by a planned undersampling (50 percent) of blind persons with visual acuity between 11/200 and 20/200.[7] The basis for the age restriction, the restriction to non-institutionalized persons, and the undersampling of those in the upper ranges of legal blindness was of maximum usefulness in estimating potential demand for dog guide training. Their inclusion would have swamped the sample, leaving too few for trustworthy estimates of demand for dog guide training.

---

[5] Hurlin, Ralph G. *Estimated Prevalence of Blindness in the United States* (New York: American Foundation for the Blind, 1953).

[6] The Census of 1930 attempted to count blind persons, but produced a figure generally considered a serious under-estimation. No further census attempts to count blind persons have been made.

[7] A person with 20/200 vision perceives at 20 feet what a person with "normal" vision is able to perceive at 200 feet.

The sample of 500 was derived in two stages. The first consisted of a one-sixth random sample of New York City registrants who met the sample criteria. The second stage consisted of blind individuals drawn at random from a stratified area sample of all counties in New York State outside of New York City. The eight sample counties were selected as geographical units which matched the characteristics of all non-New York City counties on demographic, economic and social characteristics. Further, matching and selection procedures insured that there were no statistically significant differences between the sample population and the total blind population of New York State on age and sex distribution, employment status, visual acuity and length of blindness.

The resulting sample is the only known one in the literature of research into blindness which contains a relatively unselected group of blind persons. All other studies are confined to persons receiving agency services, or attending school, or in the war-blinded veterans group. The non-selective nature of the sample is particularly important in estimating potential for dog guide training, since it is often the independently oriented blind person, not necessarily known to service agencies, who seeks out a dog guide. Hence, any convenient sample of agency users would be a seriously unrepresentative base for estimating dog guide training potential, or for other characteristics.

Projection of New York State findings to the national blind population is based on untested assumptions. The risks of such projection are lessened by sampling rural and urban counties with a variety of sizes, patterns of welfare services, and other characteristics. Although New York State contains more recent immigrant families, the large majority in the sample were native born. Also, blindness tends to impose a set of broadly similar experiences. Thus it is not likely that interview findings in the sample deviate markedly from the situation in the national group. Considering the infeasibility of a national sample, and the safeguards built into the state sample, the sampling design is believed to provide a reasonable base for estimation.

2.4 Interview Schedule

The basic information for this report is derived from an interview schedule developed for the purposes of this investigation. Where appropriate, questions were designed to record the respondent's own words as he answered the questions; however, the largest part of the instrument consisted either of multiple choice or agree-disagree questions. An extensive range of information was collected from each person in order to permit accurate classification into one of the various categories of potential dog guide use developed for this report.

The interview obtained information on a variety of background characteristics related to travel adjustment. A large section explored phases of travel mobility, including extensiveness, independence, and frequency of travel. Various attitudes toward different modes of travel, and especially dog guide travel, were inventoried in great detail. A section explored various influences on choice of mode of travel, as well as sources of information about dog guides. Personality and intelligence scales were included to permit an exploration of their relevance to travel adjustment. An additional section was concerned with adjustment in areas other than travel, such as social adjustment, employment, familial relations, and special skills associated with adaptation to blindness. A final section consisted of ratings made by the interviewers on the dwelling place, physical appearance of the respondent, mannerisms and behavioral ratings.[8]

The interviews were conducted by professionally trained social workers of long experience. A research interviewing training program was developed for persons who conducted the interviews in New York City and environs, and separate programs developed for two groups of interviewers in the upstate counties. Close liaison was maintained between the project and field staff throughout the interviewing.

The actual interviews averaged an hour and thirty-five minutes in length. Each completed interview schedule was edited for consistency by a special group of graduate students in social science, who also served as coders of all items requiring classification. Constant reliability checks of editing and coding operations were maintained.

---

[8] The actual schedule was too long for reproduction with this report.

2.5 Scaling Procedures Used in Analysis

Responses to single questions may be misleading. Some persons have a general tendency to agree or disagree with items, irrespective of content. Responses to questions about preferences for certain modes of travel, for example, may be influenced by temporary experiences or moods, and not reflect long-term dispositions. A respondent who is ordinarily well disposed to dog guides may have seen a dog misbehave on the day of the interview and therefore respond negatively to a question about the control of dog guides. Since general disposition to dog guides is the important consideration, single items are unreliable. Thus the analysis procedure included grouping of responses to presumably related items, testing of the interrelationships, and construction of scales taking related responses into consideration.

Another factor necessitating the use of scales is that persons are not simply favorable or unfavorable in their attitudes, but have varying degrees of favorableness or unfavorableness. In order to rate the degree of positive or negative attitude, items are grouped together according to statistical procedures developed for this purpose.

One type of scale used in the analysis is the Guttman scale.[9] With this scale, items are graded according to the degree of positive response, so that persons with lower scores agree only to the items with which most persons agree, while those with higher scores agree not only to the most "popular" items, but also the less "popular" items. This procedure assures that persons are properly "ordered," since a high score indicates clearly that the respondent is more positive on the particular attitude dimension. Also, the possibility is minimized that items which appear to be related to a particular attitude, but actually are independent of it, are placed in the same scale.

Many of the travel items were not put into Guttman scale form because the kinds of items involved did not lend themselves to this procedure. However, the items were grouped because they are all relevant to a particular concept, such as frequency of travel under a variety of conditions. Further, statistical correlations among the items exist. These scales are referred to as cumulative scales.

The specific scales are presented where relevant to the findings or elaborated in Appendix B. Many of them have intrinsic interest to the field of services to blind persons, especially dog guide training service, or are valuable for further research.

---

[9] See Appendix B for a discussion of the nature of the Guttman and other scales used in analysis, the statistical procedures involved, and the actual findings on the various scales.

A problem related to the use of scales is the selection of cut-off points. For example, if a health scale is constructed, the question arises as to the selection of the position on the scale below which persons are to be considered as not meeting health requirements for dog guide training. Wherever possible, the method for selection of cut-off points involved statistical examination of the relationships between scores on the various scales and the mode of travel employed. Thus, those cut-off points most predictive of effective dog guide use were selected. In other instances, logical rather than statistical considerations dictated the selection of cut-off points.

2.6 Statistical Considerations

Two types of statistical findings are to be reported in the chapters which follow. One type concerns estimates of qualified demand for dog guides. The second type concerns statistical comparisons between various sub-groups within the total sample population.

Statistical Estimates. The sample of 500 was designed to represent the New York State population of blind persons aged 15 to 54 and not institutionalized. Sample estimates can, therefore, be generalized to the New York State population within known limits. However, the primary concern is to use the New York State experience for an approximation to an estimate for the relevant blind population in the United States. Since a number of assumptions are involved that are not feasible of statistical examination, confidence limits for the national estimates have not been presented.

Statistical Comparisons. In chapter III there are a series of comparisons of dog guide users, cane travellers, persons who travel unaided and those who depend on a human guide on a number of criteria. These criteria, developed for their relevance to the dog guide selection process, were tested for statistical significance. The differences between persons who travel by different methods generally had to be sufficiently strong so that the variations could not be considered to occur by chance. An exception is the case of hearing, a *relatively* rare occurrence; however, since it is usually a sufficient cause for rejection, it was included among the criteria. Significance was tested in each instance by the use of chi square over the entire table, a statistical procedure that assesses the probability of the observed relationships occurring by chance. Where significance is noted in the tables, the observed differences between groups could not occur by chance more than five times in one hundred. In other sections of the report a similar procedure was used where relevant. In each case there is an indication whether the observed relationships are significant or not. Where only frequency distributions are presented, a test is not necessary; in other cases, tables with three pieces of information are analyzed simultaneously, and it was not considered appropriate to utilize a test of significance.

A note of caution is necessary concerning the differences between statistical significance over the entire table and any particular percentages extracted from the tables. The test used only permits an assertion of significance for the entire table. For exposition, a particular set of percentages are used to highlight many tables, but the particular proportions were not tested independently of the entire table.

Chapter III

THE POTENTIAL DEMAND FOR DOG GUIDE TRAINING

3.1 Introduction

A central conception of this study is that blind persons may be assessed with respect to various requirements or criteria for dog guide use. This assessment permits classification of blind persons into different reservoir groups with different degrees of potentiality for dog guide training. The number of blind persons fitting into each reservoir group may be counted, characteristics of the groups may be compared, and estimates may be projected to the total blind population.

Three classes of blind persons are eliminated from reservoir groups: those who are already dog guide users; those who lack physical or intellectual capacity for dog guide use; and those who have high travel efficiency and are satisfied with their own mode of travel.

The first or *primary reservoir group* includes blind persons who have the requisite capacity, motivation, need and situation for dog guide use.

Three other *subsidiary reservoir groups* may be defined. Persons assigned to these groups meet most, but not all criteria. They have either *emotional difficulties, situational difficulties,* or *lack motivation for dog guide use.* With certain services given to these individuals, or certain changes occurring, they might conceivably move into the primary reservoir group.

The second section of this chapter defines criteria utilized in the assignment of persons in the sample to one or another reservoir group. The actual indices making up the criteria and the classifications resulting from application of the criteria are outlined. (Section 3.2)

The third section presents findings obtained when persons in the sample are assessed in accordance with the requirements for dog guide training. The results are discussed from two points of view: the effect upon the assignment to reservoir groups, and the validity of the criteria as measured by their ability to distinguish between dog guide users and non-dog guide users. The reservoir groups are then fully defined, and implications of their definitions developed. (Section 3.3)

The final section presents findings as to the size of the reservoir groups in the sample and projects these to the relevant blind populations of New York State and the United States. The estimates of potential demand are then compared with available resources for such training. (Section 3.4)

3.2 Criteria Measuring Potentiality for Dog Guide Training

To assess potentiality for dog guide training, and to assign to reservoir groups with different degrees of readiness for such training requires the application of four sets of criteria: 1) The *capacity* of an individual to use a dog guide; 2) his *motivation* for a dog guide; 3) his *need* for a dog guide and 4) *situational factors* facilitating or hindering dog guide use.[1]

1. *Capacity.* Physical, intellectual, and emotional factors are involved in capacity for dog guide training.

Dog guide travel requires a degree of *health and physical capacity* which permits walking at a fairly brisk pace and which obviates frequent or long-sustained confinement to bed. This is generally required by the optimum pace of a dog guide (three to three and a half miles per hour) and by the need for fairly regular use. Unless these conditions are met, the usefulness of the dog as a guide deteriorates. To assess physical capacity, a health index was constructed from the combined responses to three questions: To what extent health factors interfered with walking; a self-rating of general health by the blind person; and an inventory of illnesses (such as cardiac disease) which the blind person verbally reviewed. Respondents were then classified as having excellent, good, fair, or poor health. Those with "fair" or "poor" health were ruled out of the reservoir groups.

---

[1] Detail on the construction of the various indices and scales is given in Appendix C. Scoring procedures and findings are given in full for the major scales.

Effective dog guide use also requires a degree of *hearing*. The blind master is required to perceive auditory cues to determine the direction of traffic, the approach to a corner, oncoming pedestrians and the like. The master must be in control of the dog guide, and to do this must know where he is. Because of this requirement, dog guide schools do not generally accept deaf-blind persons, and are cautious about accepting those who are hard of hearing. With hearing aids, it is difficult to locate the direction of sounds, and the master has difficulty in locating himself or determining the desired direction. Two questions were used to assess hearing: a direct question about any troubles with hearing; and an indirect question as to whether the respondent wished the interviewer to speak more loudly. In addition, the interviewer noted whether there was a hearing aid, and rated the degree of difficulty in hearing throughout the interview. The combined information from these items permitted classification of respondents as without hearing difficulty, moderate difficulty and substantial difficulty in hearing. Those with moderate or substantial difficulty were ruled out.

Dog guide use is limited to those in the *lower end of the visual acuity scale*. The full scale ranges from total blindness to 20/200. The reason is that relatively high vision (still within the limits of legally defined blindness) permits unaided travel, or in any event interferes with effective use of a dog guide. The master with some "travel vision" picks up visual cues, and tends to rely upon these rather than the dog. The master-dog guide relationship is thus interfered with, for the dog guide is trained to lead his master around obstacles rather than being led around them. One index of visual acuity utilized was the ophthalmic measurement of the better eye after correction listed in the records of the New York State Commission for the Blind. However, such ratings do not remain constant, so another measure was devised. Each interviewee was asked a series of questions of scaled difficulty: whether he could read print, whether he could recognize people, whether he could see moving objects, or whether he could perceive light. Obviously, a "yes" answer to any question implies a "yes" answer to any question "below" it on the scale. However, the visual acuity measure, rather than the self-reported visual scale, was used in the estimation procedure because ophthalmic measurements of visual acuity are used in various statistics and estimates of the blind population, to which the sample findings were to be projected. Those with visual acuity over 5/200 were ruled out.

There is still a problem of establishing a cutting point that distinguishes between people eligible for dog guides and those who are not. *Travel* vision does not always correlate with ophthalmic measurements. Particularly in the border area around 5/200, some blind individuals perceive visual cues to a degree that would obviate or interfere with effective dog guide use, while others are not able to translate their vision into useful cues and hence might make constructive use of dog guides. Since over 24% of the sample falls into the borderline between "light perception only" and 5/200, a travel vision index was constructed to increase the discriminating power of the visual acuity measure. Each respondent was asked whether he could recognize people on the sidewalks, distinguish large obstacles, or distinguish windows or doors. Answers were combined so that each individual could be classified into five degrees of "travel vision": none, slight, some, moderate, or good. Those with "moderate" or "good" travel vision were ruled out.

A degree of *intelligence* is also involved in effective dog guide use. New skills must be learned, directions must be remembered, the "lay of the land" must be kept in mind. A short five item intelligence test was incorporated into the interview which, when coupled with amount of education, correlates very highly with standard intelligence tests.[2] Four categories were set up, from "high" to "low" intelligence. Those in the "low" category were ruled out. These comprise the lowest 30 percent of the sample. As mentioned before, the cut-off point was set at the point most discriminative of effective dog guide use.

---

[2] "The Goosen Hidden Intelligence Test" *Public Opinion Quarterly,* Vol. 14, Winter 1950-51, pp. 759-766.

A relative degree of *emotional stability* is required for competence in the master-dog situation. A normal routine in which the dog can be used regularly for the tasks for which he has been trained is very desirable. The master must be able to detect and control any misbehavior on the part of the dog, with understanding and patience. A person with an excessive degree of anxiety, who becomes excited and confused, is not likely to react appropriately in difficult situations. For these reasons, a series of ratings were made by interviewers after the interview was concluded. The degree of anxiety manifested by the interviewee, the extent of neurotic behavior and the presence of psychotic symptoms, were noted. It may be recalled that the interviewers were professionally trained social workers with extensive clinical experience. These ratings were combined in a general rating of emotional instability. Those with moderate or high indication of emotional instability were not placed in the fully available reservoir group (the primary reservoir). Some of these were classified as having some potential for dog guide training under certain conditions, and placed into the emotional difficulties reservoir group.

2. *Motivation.* Besides these capacity factors, it is necessary to assess motivation for dog guide training. Such motivation has two aspects: the extent of dissatisfaction with the current mode of travel, on the one hand; and the extent to which favorable consideration and planning is given to a change to the dog guide mode, on the other. In a sense, motivation for dog guide training is considered by measuring both the push away from the old mode of travel and the pull toward the new guide mode.

The extent of a person's *satisfaction or dissatisfaction with his own mode of travel* is a crucial determinant of motivation for dog guide training. A complex measure of satisfaction was devised by combining three sub-indices. The first dealt with problems involved in travel, such as the frequency of running into obstacles or persons, of losing one's way, of worrying about traffic. A second dealt with other kinds of disadvantages attributed to the old mode of travel, such as hindrance to visiting friends as often as desirable, or to acquirement of a more desirable job. The third sub-index dealt with the individual's evaluation of his own efficiency of travel. Thus the person who evaluated his own travel efficiency highly tended to answer that he was able to get around more easily or to travel more efficiently than the average blind person using his mode of travel. Respondents were classified as very satisfied with own travel mode, moderately satisfied, neutral, moderately dissatisfied or very dissatisfied by consideration of all the replies to these three groups of items. Those with high or moderate satisfaction (and who objectively had high travel efficiency, as discussed later) were eliminated from the reservoir groups.

The *desire for a dog guide* was classified into categories ranging from those who had never given consideration to a dog guide, had considered but had no plan, had distant or indefinite plans, or planned to obtain a dog guide in the near future. Those who had never considered a dog guide, although they had opportunities to do so, were ruled out of reservoir groups; those who had considered but had no definite plans were classified into a subsidiary reservoir group (potentiality for dog guide training under certain conditions); while those who had active plans were assigned to the primary reservoir (unless, of course, they were ruled out on other grounds, such as physical incapacity).

3. *Need.* Not only the individual's capacity and desire for a dog guide, but his need for a dog guide assumes an important role as to whether he is to be considered in one of the reservoir groups. As defined in this study, need does not refer to the subjective want of a person, but to how well he is actually able to travel with his own travel mode. The person who is able to travel very efficiently without a dog guide has little need for a dog guide as compared with one who does not travel efficiently.

Travel efficiency includes three components: travel independence, travel extensiveness, and travel frequency. These components were first scored separately, but their interrelationship was high enough to warrant the design of an index summarizing all three. Thus the person scoring high on travel efficiency was one who tended to travel independently, frequently and extensively. Low scorers tended to travel with a human guide, to travel infrequently, and to restrict their travel to the immediate neighborhood in which they lived. Those who scored high in travel efficiency, and who were satisfied with their own mode of travel, were eliminated from reservoir groups as neither needing nor wanting dog guides.

4. *Situational Factors.* Two kinds of situational factors may limit or rule out potentiality for dog guide use, even if there is capacity, motivation or need. One set is related to factors in the person's immediate situation: lack of space in the house or for walking, disapproval of significant persons (family, social agency workers, employers), difficulty of sparing a month for training, etc. Roughly, the number of difficulties may be scored as few or none, medium or many. Those with many such difficulties were eliminated from reservoir groups.

The employment status of the individual is also pertinent. With some exceptions dog guide schools do not accept mendicants, since their status is not considered compatible with the objective of independent social functioning for which dog guide training is provided. Similarly, persons who have no plan to seek work (and who are not housewives, students or in training programs) are not acceptable candidates at most dog guide schools. The lack of a useful social role, whether as student, housewife, trainee or worker, or of any interest or plans in attaining such a role, constitutes a deficiency from the viewpoint of desire for improving travel adjustment, much less providing a regular travel routine for which dog guides are trained. These two groups of persons were ruled out of reservoir groups.

3.3 The Application of the Criteria to the Sample

In describing the criteria, attention has been drawn to the types of classification considered negative from the viewpoint of potentiality for dog guide training. It should be pointed out that some of these may be positive when considered from other points of view. Thus, high travel efficiency, or satisfaction with own mode of travel, or visual acuity over 5/200 are negative for dog guide training but positive for general travel adjustment.

The table below summarizes the percent of individuals screened out of reservoir groups because they fell into negative categories of the various criteria. The percents total more than one hundred, for many individuals fell into more than one negative category.

TABLE 3.1 PERCENTAGES IN NEGATIVE CATEGORIES OF CRITERIA FOR DOG GUIDE TRAINING[3]

Criteria and Indices	*Description of Negative Category*	*Percent in Negative Categories (Total = 500)*
A. Capacity		
1. Health Index	Poor or Fair Health	20.2%
2. Hearing	Moderate or Substantial Difficulty in Hearing	13.8
3. Visual Acuity	Over 5/200	65.4
4. Intelligence	Low Intelligence	30.8
5. Emotional Instability	Moderate or Strong Indication of Emotional Instability	12.8
6. Dog Guide Fear	Fear of Dogs	8.4
B. Need		
1. Travel Efficiency	Highly Efficient	23.4
2. Travel Mode	Dog Guide User	6.0
C. Motivation		
1. Desire for Dog	Never Considered Obtaining Dog	63.2
2. Satisfaction with Own Travel Mode	High or Moderate Satisfaction	38.2
D. Situation		
1. Employment Status	Mendicants, or Unemployed without Work Plans	32.6
2. Situational Difficulties Cited	Many Difficulties	16.6

The table indicates considerable variation in the percentages in negative categories, from 6% ruled out because they were dog guide users, to 65% because they are beyond the acceptable visual acuity range. These negative categories were selected in various ways. For some indices, particular negative categories were selected because they discriminated most clearly between dog guide and non-dog guide users; e.g., intelligence, health, hearing. For other indices, negative categories represented logical classes from the viewpoint of the reservoir; e.g., the 63% who never considered obtaining a dog. For still other indices, more quantitative in nature, approximately the extreme third of the scores were defined as comprising the negative category, e.g. the 38% who displayed moderate or high satisfaction with their own travel mode.

Finally, it might be mentioned that some of the negative categories were sufficient in themselves for ruling out individuals from reservoir groups; e.g., poor health or low intelligence. Other negative categories, however, while they excluded individuals from the Primary Reservoir, permitted assignment to a subsidiary reservoir; e.g., situational difficulties or some limited desire for a dog guide.

---

[3] The tables on which the "capacity" findings are based are given later in this Section. The scales on which all tables are based are included in Appendix C.

The way in which the criteria were applied in order to classify individuals into different reservoir groups will become clearer when these groups are fully defined. The entire sample was divided into five groups on the basis of the negative categories. These groups included (1) A "Non-Reservoir" Group; (2) An "Emotional Difficulties" Reservoir; (3) A "Situational Difficulties" Reservoir; (4) An "Unmotivated" Reservoir; and (5) A "Primary" Reservoir Group.

Non-Reservoir Group. An individual was considered out of the reservoir if he was classified into any of the following negative categories, comprising *eliminative* categories.

A. Poor or fair health

B. Moderate or substantial difficulty in hearing

C. Visual acuity superior to 5/200

D. Low intelligence

E. Dog guide user

F. Combination of high travel efficiency and high or moderate satisfaction with own travel mode; i.e., neither wants nor needs a dog guide.

Subsidiary Reservoir Groups

A. *Emotional difficulties*

A group which

1. meets the physical and intellectual requirements and either wants or needs the dog; i.e., is excluded from the eliminative categories mentioned above, but
2. is rated as having general emotional difficulties or has fear of dogs, i.e., is included in either of the negative categories of those having moderate or strong indications of emotional instability or of those admitting to dog fear.

B. *Situational Difficulties*

A group which

1. meets the physical and intellectual requirements and has no emotional difficulties, but

2. has situational difficulties, i.e., falls into the negative categories of mendicancy or unemployment without work plans, or of those citing many situational difficulties.

C. *Unmotivated*

A group which

1. meets the physical and intellectual requirements, has neither emotional nor situational difficulties, but
2. has never considered a dog guide.

Primary Reservoir. A group which meets the physical and intellectual requirements for dog guide use, has neither emotional nor situational difficulties, and has planned to obtain a dog guide.

It can be shown in Table 3.2 (p. 25) that these five groups are arranged according to the degree to which they qualify for effective dog guide use. The group most closely approximating the "ideal" reservoir is the Primary Reservoir. The group furthest removed from the ideal is the Non-Reservoir, with the Subsidiary Reservoirs occupying intermediate positions. This can be most clearly seen by comparing the groups according to several different aspects.

First of all, the groups are differentiated from one another by the sheer number of different kinds of negative categories represented in them. Thus in the Non-Reservoir all four types of negative categories are represented—eliminative categories as well as the emotionally, situationally, and motivationally negative categories. In the Emotional Difficulties Reservoir only *three* are represented; none of the individuals in the emotional difficulties group have eliminative characteristics, though they do have emotional difficulties and may have situational and motivational difficulties. The Situational Difficulties Reservoir have individuals who have only *two* types of negative category-situational and possibly motivational difficulties. The Unmotivated Reservoir has only *one* type of negative characteristic, while the Primary Reservoir has none. These considerations are summarized in the following table showing the progressive exclusion of individuals from negative characteristics, as the groups change in composition from Non-Reservoir through the Subsidiary Reservoir to the Primary Reservoir.

TABLE 3.2 NEGATIVE CHARACTERISTICS RELATED TO RESERVOIR GROUP COMPOSITION

Type of Negative Characteristic	*GROUP*				
	Non-Reservoir	*Emotional Difficulties*	*Situational Difficulties*	*Un-motivated*	*Primary*
Eliminative*	All Persons	No Persons	No Persons	No Persons	No Persons
Emotional	Some "	All "	No "	No "	No "
Situational	Some "	Some "	All "	No "	No "
Motivational	Some "	Some "	Some "	All "	No "

*"Eliminative" characteristics refer to those which preclude any possibility of dog guide use and eliminate individuals from either the primary or subsidiary reservoir groups.

Consideration is now given to the extent to which "capacity" criteria discriminate between dog guide users and non-dog guide users in the sample. Comparisons of the ratings constitute one test of the validity of the criteria; for unless the dog guide users differ from the non-users when criteria are applied, there can be little confidence in the criteria. In the section which follows, a narrative comparison will be made for each index of capacity and the relevant tables will be grouped on following pages.

When ratings on the various capacities are examined, dog guide users are found to differ from other groups in the expected directions.

(1) Fewer low health ratings are found among dog guide users. Only one dog guide user (3%) is not in excellent or good health, as compared with 15% among those who travel unaided, 16% among cane travellers and 32% among those who use a human guide. (Table 3.3)

(2) Fewer low hearing ratings are found among dog guide users. Two (7%) have some hearing difficulty, as compared with 12% among unaided travellers, 19% among cane travellers and 15% among human guide users. (Table 3.4)[4]

(3) Visual ratings are lower among dog guide users. No dog guide user has visual acuity over 5/200, as compared with 55% of unaided travellers, 17% among cane travellers, and 17% among human guide users. (Table 3.5)

No dog guide user can recognize people or read print, while 85% of those who travel without aids, 16% of the cane travellers and

---

[4] The differences in hearing difficulty among the various groups do not reach a level of statistical significance. This may be partly a function of the relatively small number of those with hearing impairment.

26% of the human guide users have one or both of these abilities. (Table 3.6)

None of the dog guide users have good travel vision, as compared with 75% of the unaided travellers, 8% of the cane travellers and 14% of the human guide users. (Table 3.7)

(4) Fewer low intelligence scores are found among dog guide users. Two or 7% are in the "low" group as compared with 28% among those who travel without aids, 25% among cane travellers and 42% among human guide users. (Table 3.8)

(5) No scores signifying moderate or high indications of emotional instability are found among dog guide users. In contrast, 12% of the unaided travellers, 8% of the cane travellers and 17% of the human guide users have such indications. (Table 3.9)

Clearly, these various components of capacity for dog guide use validly differentiate between dog guide users and those with other primary modes of travel. They also demonstrate, with respect to health, intelligence and emotional stability that cane users score somewhat less than dog guide users. Those who use a human guide are, as a group, least healthy, least intelligent and show most indications of emotional instability.

It should be noted that such differences as appear are far from absolute, and may reflect selective policies of dog guide schools, rather than effects of different modes of travel. Obviously, there are groups of persons who are not dog guide users, but who score highly on all the measures mentioned.

TABLE 3.3 PERCENTAGES IN HEALTH CATEGORIES FOR PRIMARY MODES OF TRAVEL*

	PRIMARY MODE OF TRAVEL					
Health Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
Excellent Health	69.0%	63.2%	62.1%	42.0%	—	56.0%
Good Health	27.6	22.0	22.1	25.9	—	23.4
Fair Health	0.0	6.7	8.4	12.9	—	8.6
Poor Health	3.4	8.1	7.4	19.2	—	11.6
Other	0.0	0.0	0.0	0.0	—	0.4
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

*Tables 3.3 through 3.9 have been tested by chi square and are significant at least at .05 level.

TABLE 3.4 PERCENTAGES IN HEARING CATEGORIES FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Hearing Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
No Difficulty in Hearing	93.0%	87.5%	81.1%	84.0%	—	84.6%
Moderate Difficulty in Hearing	3.5	7.2	14.7	9.2	—	9.0
Substantial Difficulty in Hearing	3.5	4.8	4.2	5.6	—	4.8
Other	0.0	0.5	0.0	1.2	—	1.6
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

TABLE 3.5 PERCENTAGES IN VISUAL ACUITY CATEGORIES[5] FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Visual Acuity	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
Totally Blind	37.9%	5.3%	27.4%	28.4%	—	19.0%
Light Perception	41.4	9.1	34.6	29.0	—	22.0
5/200 or less	20.7	27.7	21.1	22.2	—	24.4
Over 5/200 to 10/200	0.0	20.1	6.3	6.8	—	11.8
Over 10/200 to 20/200	0.0	34.9	10.5	9.9	—	19.8
Other	0.0	2.9	0.1	3.7	—	3.0
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

---

[5] Based on Records of New York State Commission for the Blind.

TABLE 3.6 PERCENTAGES IN VISION CATEGORIES (BASED ON SELF REPORTS OF RESPONDENTS) FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Vision Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
Totally Blind	37.9%	4.3%	43.2%	34.0%	—	23.4%
Light Perception	41.4	2.9	18.9	22.2	—	14.6
Able to See Moving Objects	20.7	7.6	22.1	17.3	—	14.4
Able to Recognize People	0.0	18.6	9.5	16.0	—	14.8
Able to Read	0.0	66.6	6.3	10.5	—	32.4
Other	0.0	0.0	0.0	0.0	—	0.4
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

TABLE 3.7 PERCENTAGES IN TRAVEL VISION CATEGORIES (BASED ON SELF-REPORTS OF RESPONDENTS) FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Travel Vision Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
No Travel Vision	86.2%	9.1%	63.2%	71.0%	—	44.4%
Slight Travel Vision	0.0	1.4	8.4	4.3	—	3.6
Some Travel Vision	10.3	4.3	14.7	4.3	—	6.6
Moderate Travel Vision	3.5	10.0	5.3	6.2	—	7.4
Good Travel Vision	0.0	75.2	8.4	14.2	—	37.6
Other	0.0	0.0	0.0	0.0	—	0.4
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

TABLE 3.8 PERCENTAGE IN INTELLIGENCE CATEGORIES FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Intelligence Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
High	55.2%	23.4%	31.6%	13.0%	—	23.2%
High-Moderate	17.2	25.4	20.0	20.4	—	22.0
Low-Moderate	20.7	23.4	23.2	24.7	—	23.6
Low	6.9	27.8	25.2	41.9	—	30.8
Other	0.0	0.0	0.0	0.0	—	0.4
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

TABLE 3.9 PERCENTAGES IN EACH EMOTIONAL INSTABILITY CATEGORIES FOR PRIMARY MODES OF TRAVEL

	PRIMARY MODE OF TRAVEL					
Emotional Instability Category	*Dog Guide*	*Unaided*	*Cane*	*Human Guide*	*Other*	*Total Sample*
No Indications	79.4%	50.3%	48.5%	41.4%	—	48.4%
Slight Indications	20.6	37.3	43.1	41.4	—	38.6
Moderate Indications	0.0	6.2	6.3	8.6	—	7.0
High Indications	0.0	6.2	2.1	8.6	—	5.6
Other	0.0	0.0	0.0	0.0	—	0.4
Total	100.0%	100.0%	100.0%	100.0%	—	100.0%
(No. of Cases)	(30)	(209)	(95)	(162)	(4)	(500)

3.4. Demand and Resources for Dog Guide Training

The goal of comparing potential demand with resources is reached in four steps in this section. The first step is to present the findings in the sample of 500. The table below gives the number and percent of each reservoir group in the sample (unadjusted and adjusted).

TABLE 3.10 DISTRIBUTION OF ADJUSTED[7] AND UNADJUSTED SAMPLES BY RESERVOIR AND NON-RESERVOIR GROUPS

Group	*Unadjusted Sample*		*Adjusted Sample*	
	Number	*Percent*	*Number*	*Percent*
Primary Reservoir	23	4.6%	23	3.8%
Subsidiary Reservoirs				
A. Unmotivated	24	4.8	24	4.0
B. Situational Difficulty	25	5.0	25	4.2
C. Emotional Difficulty	10	2.0	10	1.7
Non-Reservoir	417	83.4	517	86.1
No Information	1	0.2	1	0.2
Total	500	100.0%	600	100.0%

It may be seen that the primary reservoir group, the "unmotivated" group and the "situational difficulty" group each constitute about 4% of the adjusted sample, while the "emotional difficulty" group constitutes less than 2%. The great majority are ruled out of reservoir groups.

The next step is to apply the adjusted sample percentages to the relevant blind populations of New York State and the United States, i.e., the non-institutionalized blind individuals in the 15-54 age range.[8] In the next table, the primary reservoir is subdivided into two groups; those who are immediately available (definite plans within the near future, about a year) and those whose plans are not as immediate. This breakdown of the primary reservoir is intended to provide information of special administrative usefulness. *The immediately available group within the primary reservoir may be taken as the best estimate of the number expected to apply and to be accepted for dog guide training in any one year.*

---

[7] Adjusted sample is sample altered to account for planned undersampling of persons whose visual acuity is over 10/200. See Appendix A.

[8] Since definitive statistics on the characteristics of the national blind population do not exist, the experience of the New York State population was used in deriving national estimates. It was assumed that the age distribution of the New York State blind population would correspond with reasonable accuracy to the situation in the national population.

The logic of projecting sample findings on proportions in the various reservoir groups entails the following steps: (See Appendix C, Table C.1 for the actual figures involved.)

(a) Determination of the sample rates of inclusion in the reservoir groups.
(b) Adjustment of the rates for the planned undersampling of higher vision groups and exclusion of the non-institutionalized population.
(c) Determination of the ratio between the sampled age groups and the total blind population of New York State.
(d) Estimation of the number in the blind population in the nation, and applying the New York State experience to this population.

TABLE 3.11 ESTIMATED RESERVOIR IN NEW YORK STATE AND CONTINENTAL UNITED STATES AVAILABLE FOR DOG GUIDE TRAINING

Reservoir	*Estimated Total in New York State*	*Estimated Total in United States*
A. Primary		
Soon to be Available[9]	30	425
Considering	202	2,843
Primary Total	232	3,268
B. Subsidiary		
Unmotivated	242	3,413
Situational Difficulties	252	3,558
Emotional Difficulties	101	1,423

A key figure in this table is that approximately 425 individuals throughout the United States are estimated as fully qualified and have fairly immediate plans for dog guide training in the period of a year. The number of those in the United States who are fully qualified, without regard to immediacy of plans, is 3,268. This figure represents approximately 1% of the total estimated blind population of the United States in 1957. Thus, approximately one in a hundred legally blind persons in the United States may be regarded as meeting all criteria for dog guide training.

The third step is to present findings as to the extent of resources available for dog guide training.[10] Some of the general findings of a questionnaire addressed to all dog guide schools in the United States may be briefly outlined.

In 1956, there were eleven known dog guide training centers. They varied widely in size, with the largest three training or retraining over three-fourths of the approximately 500 students in all centers in 1956. About two-thirds of the students were being newly trained in the use of their first dog guide, the other third were being retrained in the use of replacements for dog guides received previously.

At the end of 1956, about 150 qualified applicants throughout the entire country were reported on waiting lists for a period of three months or more. The figure was nearly balanced by reported unused capacity in the schools sufficient for 140 students. A shortage of qualified trainers was indicated by several schools. These two factors, the near balance between the size of the waiting list and the unused capacity, and the shortage of qualified trainers, did not support any plans for expansion of dog guide training facilities.

---

[9] From the sample, about 13% of those in the Primary Reservoir indicated they had definite plans to get a dog guide in the near future. This comprises the "Soon to be Available" group, i.e. those available within approximately the next year. Those who are "Considering" foresee applying within the next few years or are indefinite as to date of probable application.

[10] Based on *Guide Dog Training Centers for Blind Persons,* Research Center, New York School of Social Work, Columbia University, 1957, Mimeographed, Unpublished.

The total training capacity of all dog guide schools may be estimated by adding the number of new students trained in 1956 (321), the number of students retrained for replacement of dog guides (171) and an estimate given by 9 of the 11 dog guide schools as to the number of unused places (139). Thus, the total number of places available for dog guide training, of varying degrees of quality, is estimated at *631.* To the extent that the picture of resources has not changed significantly since 1956, this estimate is serviceable as a basis for current comparisons.

It is now possible to take the final step of comparing estimated demand and resources.

TABLE 3.12 ESTIMATED DEMAND AND RESOURCES FOR DOG GUIDE TRAINING

Estimated Number of New Students Soon to be Available	425	
Estimated Number of Replacements	171	
Total Training Demand		596
Estimated Current Capacity		631
Surplus of Current Capacity over Demand		35

The general conclusion is reached that the estimated current capacity is slightly in excess of the estimated immediate potential for dog guide training.

The findings of this section may be briefly summarized. There are about 3,268 individuals fully qualified for dog guide training, approximately 1% of the total population of blind persons in the United States. Of these, some 425 may be considered as immediately available, since they have fairly definite and immediate plans to apply for dog guide training. Another 171 will probably require retraining to replace dog guides. To handle the estimated need for 596 training placements, there are about 631 places available. Accepting the basic assumption that 596 individuals satisfy basic criteria for successful dog guide use, a slight excess of resources over demand is therefore indicated at the current time. This finding parallels the conclusion reached by comparing the size of reported waiting lists at all dog guide schools in 1956 with the number of unused places. Expansion of dog guide training facilities is not supported by the evidence.

Chapter IV

BACKGROUND AND CHARACTERISTICS OF RESERVOIR GROUPS

4.1 Introduction

Since the reservoir groups were set up on the basis of differences in criteria related to potentiality for dog guide use, certain differences are "built in." There are, however, other possible differences which may be associated with criteria for dog guide use, but not identical with them. The purpose of this chapter is to compare reservoir groups with respect to these other possible differences.

These differences are of a background nature, including social class, educational level, employment status, sex, geographic location, and age distribution. For convenient examination, the reservoir groups will be classified as dog guide users, primary reservoir (meeting all criteria for dog guide use), subsidiary reservoir (having capacity for dog guide use but with emotional, situational, or motivational limitations), and finally the non-reservoir group. The non-reservoir group, in these comparisons, does not include dog guide users, who are examined separately.

In the section which follows, comparative statements will first be made, and the tables on which the statements are based will then be presented. Details of the indices used are given in Appendix B.

4.2 Other Background Characteristics of Reservoir Groups

Social Class.[1] The primary reservoir resembles dog guide users most closely, in that relatively fewer are in the two lower social class groups. Dog guide users have 30% in these two lower groups. The primary reservoir has 45%, the subsidiary reservoir groups 53%

---

[1] Social Class Level was defined with reference to occupational level, dwelling level and amount of education. The index and scale are given in Appendix B.

and the non-reservoir group has 68% in the two lower social class groups. Thus there is a broad relationship between readiness for dog guide training and social class level, though of course there are individuals who do not fit in with this trend. (Table 4.1)

Educational Level. One reason for the lower class status of the non-reservoir group shows up when comparisons are made as to educational level, which was one of the components of the social class index. Ratings on educational level are lowest in the non-reservoir group, somewhat higher in the subsidiary reservoir groups, still higher in the primary reservoir and highest among dog guide users. (Table 4.2)

Employment Status. As with other comparisons, the primary reservoir group most closely resembles dog guide users, who have the highest employment status. Thus, about 63% of the dog guide users are employed (all full-time) as compared with about 43% in the primary reservoir, 42% in the subsidiary reservoir and 36% in the non-reservoir group. The picture is similar when the relative proportions who have no work plans or the few who are mendicants is examined. The smallest proportion (10%) is found among dog guide users, next smallest in the primary reservoir, (17%). The subsidiary reservoir and the non-reservoir groups have highest proportions in this low employment status group; 39% and 34% respectively. (Table 4.3)

Sex Distribution. The primary reservoir is most heavily male (78%) as compared with 58% in the non-reservoir and subsidiary groups, and somewhat unexpectedly 53% among dog guide users. The relatively low percentage of males among dog guide users in the particular sample is difficult to explain except in terms of sampling fluctuations. In a previous study of 200 blind persons who had been at The Seeing Eye an 80% male proportion was found, one much closer to the population in the primary reservoir. (Table 4.4)

Geographic Location. Differences in geographic location appear. The primary reservoir is drawn mainly from outside New York City, in contiguous and upstate counties (75%). Actual dog guide users, in contrast, are most heavily in New York City (67%). The subsidiary and non-reservoir groups are somewhat less concentrated in New York City (63% and 62% respectively). These findings suggest that areas outside New York City, including rural areas, have a greater potential for dog guide training, but a smaller number who actually avail themselves of such training. (Table 4.5)

Age Distribution. The dog guide users and reservoir groups are broadly similar in age distribution. The non-reservoir group have slightly higher percentages in the youngest age group (15 to 19) and in the oldest (50 to 54). (Table 4.6)

4.3 Summary

On a number of background characteristics other than those used directly in the selection of the reservoir groups, dog guide users show highest status, with the primary reservoir group most closely resembling the dog guide users. Dog guide users are highest, and the primary reservoir group next highest with respect to social class, educational level, employment and employment status.

Unsystematic or slight differences appear among reservoir groups with respect to sex distribution, geographic location or age distribution.

TABLE 4.1 SOCIAL CLASS LEVELS OF DOG GUIDE USERS, RESERVOIR, AND NON-RESERVOIR GROUPS

		RESERVOIRS		
Social Class	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
Low	6.7%	13.1%	13.6%	35.8%
Upper Lower	23.3	30.4	39.0	32.5
Lower Middle	50.0	30.4	23.7	21.9
Middle	16.7	26.1	23.7	9.5
No Information	3.3	0.0	0.0	0.3
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

Differences tested by chi square significant at least at .05 level.

*Comprising the Unmotivated, Situational Difficulties, and Emotional Difficulties Reservoirs.

**Excluding dog guide users.

TABLE 4.2 EDUCATIONAL LEVELS OF DOG GUIDE USERS, RESERVOIR AND NON-RESERVOIR GROUPS

		RESERVOIRS		
Educational Level	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
Some Grade School	3.3%	0.0%	3.4%	28.9%
Completed Grade School	10.0	0.0	16.9	14.4
Some High School	16.7	30.5	23.7	24.5
Completed High School	26.7	39.1	34.0	16.0
Some College	23.3	13.0	16.9	11.3
No Information	20.0	17.4	5.1	4.9
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

Differences tested by chi square significant at least at .05 level.

TABLE 4.3 EMPLOYMENT STATUS OF DOG GUIDE USERS, RESERVOIR AND NON-RESERVOIR GROUPS

		RESERVOIRS		
Employment Status	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
No Work Plans or Mendicants	10.0%	17.4%	39.0%	34.0%
Seeking Work	23.4	34.8	16.8	22.9
Trainee, Student or Housewife	3.3	0.0	1.8	3.6
Part or Full Time Work	63.3	43.5	42.4	36.1
No Information	0.0	4.3	0.0	3.4
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

Differences tested by chi square significant at least at .05 level.

TABLE 4.4 SEX DISTRIBUTION OF DOG GUIDE USERS, RESERVOIR AND NON-RESERVOIR GROUPS[2]

		RESERVOIRS		
Sex	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
Male	53.4%	78.3%	57.6%	58.0%
Female	43.3	21.7	42.4	41.8
No Information	3.3	0.0	0.0	0.2
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

*Comprising the Unmotivated, Situational Difficulties, and Emotional Difficulties Reservoirs.

**Excluding the Dog Guide Users.

---

[2] For a projection of the percentage age and sex distributions of the Reservoir Groups, given as absolute numbers for New York State and Continental United States Blind Population, see Appendix C.

TABLE 4.5 GEOGRAPHIC LOCATION OF DOG GUIDE USERS, RESERVOIR AND NON-RESERVOIR GROUPS

		RESERVOIRS		
Location	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
New York City	66.7%	26.1%	62.7%	61.8%
Contiguous Counties	10.0	30.4	11.9	17.3
Upstate Counties	20.0	43.5	25.4	20.6
No Information	3.3	0.0	0.0	0.3
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

TABLE 4.6 AGE DISTRIBUTION OF DOG GUIDE USERS, RESERVOIR AND NON-RESERVOIR GROUPS

		RESERVOIRS		
Years	*Dog Guide Users*	*Primary*	*Subsidiary**	*Non-Reservoir***
15-19	0.0%	0.0%	1.7%	4.6%
20-24	3.3	0.0	3.4	5.4
25-29	10.0	4.3	13.6	12.1
30-39	33.4	47.9	28.8	20.6
40-49	30.0	30.4	33.9	30.8
50-54	20.0	17.4	18.6	24.2
No Information	3.3	0.0	0.0	2.3
Total	100.0%	100.0%	100.0%	100.0%
(No. of Cases)	(30)	(23)	(59)	(388)

*Comprising the Unmotivated, Situational Difficulties, and Emotional Difficulties Reservoirs.

**Excluding the Dog Guide Users.

CHAPTER V

ASPECTS OF THE TRAVEL ADJUSTMENT OF BLIND PERSONS

5.1 Introduction

As the previous chapters indicate, the estimation of the potential demand for dog guides entailed the collection of a good deal of data describing the travel activity of blind persons. It is the purpose of this chapter to present a number of more salient findings in this area.

The pertinence of the presentation derives from a widely held assumption that travel adjustment plays a key role in the social, psychological and interpersonal behavior of blind persons. The performance of important social roles—vocational, parental, student, organization member and the like—is profoundly affected by the extent of travel activity. Whether, how, and how much a blind person travels is believed to have important implications for the concept he has of himself and the way he feels about himself.

Travel activity also affects relationships with other people. The non-travelling blind person tends to have restricted interpersonal relationships, and the blind person who travels only with the aid of other sighted persons has relationships colored by the dependence upon sighted guides.[1] Thus, while the level of travel adjustment depends upon physical, psychological and social factors, it also makes a contribution to these factors.

It is necessary to define certain terms as they are used in relation to blind persons in this study. The term "travel" itself needs definition. The term "mobility" is often used as a synonym to describe activity in getting from place to place either within a home or outside it. In this study, "travel" is used more narrowly to signify walking and use of vehicles outside the home. Orientation is a related concept, signifying the mental mapping of the environment in relation to one's own position. Obviously, orientation is an essential component of travel.

The problem of travel cannot be discussed, as workers with the blind well know, without consideration of the degree of vision. Many persons legally defined as blind have sufficient vision and use what they have with sufficient efficiency to travel unaided and with relatively little difficulty. On the other hand, there is a major group whose degree of visual loss creates severe difficulties in travel.

This study has utilized a variety of approaches to the measurement of visual capacity. Ophthalmological ratings of visual acuity, as recorded in the register of blind persons at the New York State Commission for the Blind represent one measure. However, such ratings are recorded at the time of registration, and are not routinely modified to reflect changes in visual status. Thus, while these ratings are valuable for statistical description of a total population, there may be some bias introduced when the measures are used in investigation of relationships to other factors operative at the time of the interview.

---

[1] Gowman, Alan "Blindness and the Role of Companion," *Social Problems* Vol. IV, No. 1 (July 1954) pp. 68-75.

A second approach to a vision rating was one obtained by interview. Respondents were asked whether they could perceive light, whether they were able to see moving objects, whether they could recognize people, or whether they could read print. The answers were consistent, correlated highly with the ophthalmic measures, and permitted a "visual perception" score based on self-ratings. This score is used in the sections which follow to divide respondents into "low" and "high" visual perception groups. (See Appendix B for Visual Perception Scale.)

The *mode of travel* also requires attention. Travel may be carried on without aids of any kind, with non-personal aids such as a cane or dog guide, or with a personal aid; that is, a human guide. In using a human guide, the responsibilities for sensing and interpreting non-visual cues are minimal as compared with travel with cane or dog guide.

In speaking of travel performance, certain objective factors are implied—the frequency of travel, the extensiveness of travel and the independence of travel. In this study, a travel frequency score was determined by the answers to a series of questions concerning how often the respondent travelled under various conditions. (See Appendix B for description of scales.) Travel extensiveness refers to the notion of distance (immediate neighborhood, more distant areas), without reference to frequency. "Independence" of travel refers to the use, or absence of use, of a human guide in familiar, or unfamiliar areas.

The next two sections of this chapter provide a general description of the travel performance of our respondents in the light of the visual perception score. Travel performance by high and low vision groups is also analyzed for the different modes of travel.

Succeeding sections deal with more subjective aspects of travel adjustment; with the amount and concern for travel performance on the part of the respondents, and with the nature of the decision process in selecting a mode of travel.

5.2 Travel Performance and Visual Perception

Introduction. This section is addressed to an analysis of the travel performance of our sample as it is related to the extent of visual perception. The procedure is to present the travel performance of those who fall into "low," "medium" and "high" visual perception groups.

To separate the sample into the low and high visual perception groups, self-reports were utilized. Respondents who reported they were totally blind or had light perception only, were termed the "low" visual perception group. Those who reported they could see moving objects, or recognize people, or read print, were categorized as the "high" visual perception group.

Visual Perception and Travel Mode.[2] In our sample of 500, 38% were in the lower visual group (light perception or total blindness) and 62% in the group with more than light perception.

As for the mode of travel usually employed by those in the total sample: the largest proportion (42%) report that most travel is carried on without aids of any kind, that is, without human guide, cane or dog guide. The next largest group (32%) indicate that most of their travel is done with a human guide. Cane use is reported as the primary mode of travel by 19% of the sample. Least often reported is dog guide use, reported by 6% of the sample.

The most numerous group, those who report unaided travel, are overwhelmingly a high vision group. About 93% have vision above light perception.

The next largest group, those who travel with a human guide, are mainly a low vision group. About 56% have light perception only or are totally blind. Yet low visual status alone does not explain the use of a travel mode which entails minimal responsibility for use. Fully 44% of the human guide users have more than light perception.

Cane users, as a group, have *less* vision than the human guide users, for they have 62% in the low vision group. Yet they report a mode of travel which requires more independence than that of the human guide users.

---

[2] It should be noted that certain of the figures reported in this section reflect the fact that the sample was underweighted by half in the visual acuity range between 11/200 to 20/200. Thus, in the general population of blind persons, there would be a higher proportion in the high vision group than here reported. Moreover, dog guide users, who are characterized by low vision, would constitute a smaller proportion of the total than is indicated here. However, the relationships among the various factors discussed would not be significantly altered.

Finally, dog guide users, who are the smallest group in the sample, have least vision. Some 80% have light perception only or are totally blind. (Table 5.1)

Frequency of Travel. The frequency of travel may next be considered. For the total group, just under a quarter have "high" scores. "High" scores would indicate a level at least two-thirds of the way up a scale running from complete restriction as to frequency of travel, to complete lack of restriction. Thus, three-quarters of the group do not reach the standard of considerable frequency of travel.

Those with low visual perception scores travel less frequently than those with higher scores. However, the difference is not extreme, and indicates again that other factors in addition to sheer visual status are involved in travel performance. In our sample, 40% of the low visual scores are in the low travel frequency group, as compared with 28% of the high vision group. Relatively more of the high vision group have moderate travel frequency scores (46%) than the low vision group (38%). Twenty-one percent of the low vision group travel with high frequency. Only slightly more (23%) of the high vision group are high frequency travellers. (Table 5.2)

Extensiveness of Travel. A second dimension of travel performance is extensiveness, or distance. As in the analysis of frequency, the scale runs from minimum to maximum extensiveness, with the scores divided into thirds. A score falling into the "high" extensiveness category would indicate travel in both familiar and unfamiliar areas.

The findings indicate that somewhat more than half (56%) of the total group are in the "high" extensiveness category. However, as expected, there is a difference in the performance of the low and high vision groups. The low vision group have 47% in the high travel extensiveness group, while the high vision group have 62%. (Table 5.3)

Thus, while somewhat over half the total group travel with considerable extensiveness, the lower vision portion of the sample have less than half who reach this standard.

Independence of Travel. The field of service to blind persons puts a good deal of emphasis on the independence with which travel is carried on. The extent to which sighted guides are used in familiar and unfamiliar areas is a measure of dependence. Low scorers either do not travel extensively, or do not travel alone. At the upper end of the scale are those who travel to unfamiliar places by themselves. Those whose primary mode of travel is without aids would tend to score highly on this index, but even these persons might report using sighted guides on occasion. The same would be true for cane and dog guide users. Human guide travellers, by definition, would tend to score low on this index of independence.

In the total group, under a third (31%) score "high" on travel independence. As might be expected, those with vision above the light perception range do proportionately better (36% in the high independence group) than do those with light perception or total blindness (22%). Yet, the relatively higher scores of the higher vision group do not change the fact that more than three-fifths do not reach the level of considerable independence. (Table 5.4)

Travel Efficiency. It may be useful to present a single composite measure of the three objective aspects of travel performance: frequency, extensiveness and independence. For this purpose, a single summary measure of travel "efficiency" was devised. Respondents who scored in the lowest third of all three aspects were placed in the "low efficiency" category. Those who scored in the upper third, or nearly so, were placed at the other extreme, "high efficiency." Scores falling between the two extremes were placed in a "medium efficiency" category.

In the entire group, regardless of visual perception, somewhat under one-fourth (23%) reached "high travel efficiency," about one-half (51%) reached "medium travel efficiency," and one-fourth scored in the "low travel efficiency" group. Thus, about three-fourths of the group, whose maximum age is 54, do not reach a standard of fairly unrestricted frequency, extensiveness and independence of travel.

Visual perception status has a similar relationship to travel efficiency as it has to the component aspects of frequency, extensiveness and independence. Those with vision above light perception have 28% in the highest travel efficiency group as compared with the lower visual perception group, which has 16%. As before, although those with higher vision do relatively better, the absolute level reached is still low. (Table 5.5)

Summary. About three-fourths of the sample are characterized by travel which is restricted as to frequency and independence. Somewhat less than half do not travel with considerable extensiveness, but the lower vision group have more than half which is restricted as to the extensiveness of travel. On a combined measure of all three aspects, termed travel efficiency, three-fourths fall in the category of restricted travel.[3]

While those with higher vision generally score higher as a group, three-fourths do not achieve considerable frequency, about two-fifths do not achieve considerable extensiveness, and somewhat under two-thirds do not achieve considerable independence. On the over-all measure of travel efficiency, somewhat over two-thirds do not reach the category of fairly unrestricted travel.

The tables on which these statements are based follow.

TABLE 5.1 TRAVEL MODE BY VISUAL PERCEPTION SCORE*

	VISUAL PERCEPTION SCORE			
Travel Mode	*Low*	*High*	*Total*	*Number*
Unaided	6.7%	93.3%	100%	(209)
Cane	62.1	37.9	100	(95)
Dog Guide	80.0	20.0	100	(30)
Human Guide	55.6	44.4	100	(162)
Homebound, Other	—	—	—	(4)
Number	(190) (38%)	(310) (62%)		(500)

TABLE 5.2 TRAVEL FREQUENCY BY VISUAL PERCEPTION SCORE

	VISUAL PERCEPTION SCORE		
Travel Frequency	*Low*	*High*	*Total*
Low	40.5%	28.1%	32.8%
Medium	38.4	45.8	43.0
High	21.1	22.9	22.2
No Answer	0.0	3.2	2.0
Total	100.0%	100.0%	100.0%
(No. of Cases)	(190)	(310)	(500)

---

[3] These findings may be compared broadly with those from two other sources. Bauman, in the study referred to previously (450 blind persons known to agencies in 6 states) found that 64% were homebound or traveled only in familiar places. The population is somewhat different, but the general finding that a majority of blind persons are restricted in travel performance is consistent with this study. Similarly, in a questionnaire study carried on as part of the current research, the estimated percentage of blind persons not travelling up to physical capacity was given as 57%. This figure was reached by averaging the estimates of 99 workers in a variety of agencies for blind persons. (Finestone, Samuel "Travel Services for Blind Persons" Research Center, New York School of Social Work, Columbia University, 1958, Mimeographed.)

*Tables 5.1 through 5.5 have been tested by chi square and are significant at least at .05 level.

TABLE 5.3 TRAVEL EXTENSIVENESS BY VISUAL PERCEPTION SCORE

Travel Frequency	VISUAL PERCEPTION SCORE *Low*	*High*	*Total*
Low	22.6%	12.9%	16.6%
Medium	30.5	25.5	27.4
High	46.9	61.6	56.0
Total	100.0%	100.0%	100.0%
(No. of Cases)	(190)	(310)	(500)

TABLE 5.4 TRAVEL INDEPENDENCE BY VISUAL PERCEPTION SCORE

Travel Independence	VISUAL PERCEPTION SCORE *Low*	*High*	*Total*
Low	54.2%	27.5%	37.8%
Medium	21.6	34.4	29.8
High	21.6	36.4	30.8
No Answer	2.6	1.7	1.6
Total	100.0%	100.0%	100.0%
(No. of Cases)	(190)	(310)	(500)

TABLE 5.5 TRAVEL EFFICIENCY BY VISUAL PERCEPTION SCORE

Travel Efficiency	VISUAL PERCEPTION SCORE *Low*	*High*	*Total*
Low	35.2%	18.8%	25.0%
Medium	48.4	52.1	51.2
High	15.8	27.6	23.2
No Answer	0.6	1.5	.6
Total	100.0%	100.0%	100.0%
(No. of Cases)	(190)	(310)	(500)

5.3 Travel Performance and Travel Mode

Introduction. This section turns to an examination of travel performance as it is affected by the method of travel reported by the respondents as primary. Since travel performance is also affected by visual perception, it is necessary to take this factor into account as well. To do this, the sample is first broken down into groups characterized by mode of travel. Each travel mode group is further broken down into low and high visual perception groups. It then becomes possible to compare the scores of each travel mode group with low visual perception on the measures of travel performance described previously; that is, frequency, extensiveness, independence and efficiency. The same comparisons are made for the travel mode groups with high visual perception.

Each travel mode group will be discussed in turn. Comparisons of travel performance will be made with other travel mode groups of like visual perception status. Comparisons are also made within each travel mode group as between low and high visual perception groups.

Human Guide Travellers. It has been indicated previously that those who report they travel mainly with human guides make up nearly a third of the entire sample; second in number only to those who travel without aids. This group has 44% in the high visual perception group; thus it is a higher vision group than the cane or dog guide travellers, though lower than the unaided travellers.

The travel performance of the human guide travellers can be summed up very simply. It falls markedly below every other travel group on every measure of travel performance. This lowest ranking remains whether the low vision portion is compared with the other low vision travellers, or whether the high vision portion is compared with the other high vision travellers. The tables (pp. 48, 49) give a more precise picture of this general trend.

Only one percent of the human guide travellers achieve high travel frequency scores, whether low vision or high vision. (Table 5.6) As for travel extensiveness, a third of the low vision group score high in extensiveness. Relatively more of the high vision human guide users score high in extensiveness, 40%. (Table 5.7) Travel independence scores for the human guide travellers, as expected, are also extremely low: zero percent for the low vision group and 4% for the high vision group. (Table 5.8) The overall measure of travel efficiency shows zero percent of the low vision group, and 11% of the high vision group reaching high travel efficiency. (Table 5.9)

It may further be noted that there are rather slight differences between the low vision and high vision groups of human guide travellers. It is as if once the human guide mode of travel is depended upon, a markedly restricted pattern of travel performance is enforced, regardless of visual status. Only slight travel advantages accrue to the higher vision human guide users. It may of course be that other factors contribute both to the selection of the human guide mode, and poor travel performance.

Cane Travellers. Those who report that they travel with a cane most of the time make up just under a fifth of the sample. Their visual status, as measured by visual perception scores, is lower than human guide travelers or those who travel without aids, but higher than dog guide users.

Cane travellers rate above human guide users by wide margins in every category of travel performance, both in the low and high vision groups. However, cane travellers fall markedly below dog guide users on all the comparisons but one. Cane travellers, dog guide users, and unaided travellers (all in the low visual category) have about the same proportion in the high travel independence group, about 42%. (Table 5.8)

In the low vision group, cane travellers have 29% in the high travel frequency category as compared with 54% among dog guide users. (Table 5.6) They have 54% in the high travel extensiveness category as compared with 71% among dog guide users. (Table 5.7) On the overall measure of travel efficiency, they have 24% in the high category; the dog guide users have 37%. The differences in favor of dog guide users are even more marked when comparisons are made on each travel measure among those with high visual perception scores. However, these comparisons may not be dependable. There are only six dog guide users with high visual perception who are actually at the lowest end of the "high" visual perception group. They seem to score unusually higher and are too few for statistical conclusions to be drawn. (Table 5.9)

In comparisons among cane users of low and high visual perception, there is a slight advantage in favor of the low vision group so far as travel frequency is concerned. (In each case a 7% difference between low and high users.) When travel independence, and the general measure of efficiency is considered, there is a somewhat larger margin in favor of the lower vision group.

This somewhat surprising finding may be a consequence of a possibly greater propensity of those with lower vision to obtain training. With training, the possibility of greater travel improvement is present, even with lower visual status. However, this explanation is to be further tested in subsequent reports.

Dog Guide Users. Those who report using dog guides constitute the smallest group of the sample (6%) and the lowest vision group.[4] As has been indicated previously, they have higher proportions in the superior travel performance categories than cane users in all but one travel measure, where the ratings are similar. Travel independence scores among the low vision cane travellers and dog guide travellers are similar.

The only group not yet discussed consist of those who report they travel mainly without aids. Comparisons here are difficult, for the visual perception characteristics of the two groups are in sharp contrast. Dog guide users are overwhelmingly a low vision group; unaided travellers are overwhelmingly a high vision group. Dog guide users have six, or one-fifth in the high vision group, while unaided travellers have 14 or 7% in the low vision group.

Both of these atypical groups score very highly on all travel measures, yet the groups are too small for dependable comparisons. The fourteen unaided travellers with low vision are not exceeded on frequency, extensiveness, independence or efficiency by any other travel mode group, but they share first rank with dog guide users on extensiveness and independence.

---

[4] A national estimate of the number using dog guides is provided by the results of a questionnaire addressed to all dog guide centers in 1956 (*Guide Dog Training Centers for Blind Persons* op. cit., p. 3). The figure is approximately 3500 or 1% of the total legally blind population.

On the other hand, the small group of high vision dog guide users are above the high vision unaided travellers on frequency, extensiveness and efficiency, and about the same on independence. However, these comparisons, as with the low vision dog guide users and unaided travellers, cannot be termed significant because of the small size of one or the other group. It may be useful to pursue further the characteristics of unaided low vision travellers, to check further their visual status, their number and their travel and other characteristics.

Unaided Travellers. Most of the facts concerning the travel performance of unaided travellers have already been given. It is in point, however, to compare the travel performance of the numerous high vision group of unaided travellers with the high vision cane and human guide travellers. The human guide travellers are, as has been previously indicated, lowest on all travel measures, and the cane travellers markedly higher. The unaided travellers are also higher than the cane travellers on all travel measures. On travel frequency, the percentages in the high scoring group are 31% to 22%, on extensiveness 71% to 47%, on independence 51% to 19%, and on the general measure of efficiency 39% to 17%.

Summary. It is not difficult to summarize the travel performances of human guide travellers, cane travellers and dog guide users. Generally speaking, human guide users represent minimal travel performance, cane travellers achieve a midway position well above human guide users, while dog guide users are in turn markedly above both groups. The exceptions to these generalizations are minor.

The unaided travellers make comparisons complicated. It is perhaps safest to confine comparisons with cane travellers and human guide users in the high vision group. On all travel comparisons unaided travellers rank highest, perhaps because within the high visual perception group their vision is highest.

Visual perception does not differentiate consistently within each travel mode. Travel mode differences in performance are greater and more consistent than sheer visual status. The factor of training may well be of considerable importance.

Following are the tables upon which the analysis has been based.

TABLE 5.6 PERCENTAGES OF PRIMARY TRAVEL MODE GROUPS AT TRAVEL FREQUENCY LEVELS, BY VISUAL PERCEPTION

Low Visual Perception

	TRAVEL FREQUENCY					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	28.6%	7.1%	64.3%	0.0%	100%	(14)
Cane	18.6	52.5	28.9	0.0	100	(59)
Dog Guide	16.7	29.2	54.1	0.0	100	(24)
Human Guide	61.1	37.8	1.1	0.0	100	(90)
Homebound, Other	—	—	—	—	—	(3)
Number	(77)	(73)	(40)	(0)		(190)

High Visual Perception

	TRAVEL FREQUENCY					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	17.0%	47.2%	30.7%	5.1%	100%	(195)
Cane	25.0	52.7	22.3	0.0	100	(36)
Dog Guide	0.0	66.7	33.3	0.0	100	(6)
Human Guide	61.1	37.5	1.4	0.0	100	(72)
Homebound, Other	—	—	—	—	—	(1)
Number	(87)	(142)	(71)	(10)		(310)

TABLE 5.7 PERCENTAGES OF PRIMARY TRAVEL MODES AT TRAVEL EXTENSIVENESS LEVELS, BY VISUAL PERCEPTION

Low Visual Perception

	TRAVEL EXTENSIVENESS				
Travel Mode	*Low*	*Medium*	*High*	*Total Percent*	*Number*
Unaided	7.1%	21.5%	71.4%	100%	(14)
Cane	15.3	30.6	54.1	100	(59)
Dog Guide	4.2	25.0	70.8	100	(24)
Human Guide	31.2	35.5	33.3	100	(90)
Homebound, Other	—	—	—	—	(3)
Number	(43)	(58)	(89)		(190)

High Visual Perception

	TRAVEL EXTENSIVENESS				
Travel Mode	*Low*	*Medium*	*High*	*Total Percent*	*Number*
Unaided	6.4%	22.6%	71.0%	100%	(195)
Cane	19.4	33.3	47.3	100	(36)
Dog Guide	0.0	16.7	83.3	100	(6)
Human Guide	29.2	30.5	40.3	100	(72)
Homebound, Other	—	—	—	—	(1)
Number	(40)	(79)	(191)		(310)

TABLE 5.8 PERCENTAGES OF PRIMARY TRAVEL MODE GROUPS AT TRAVEL INDEPENDENCE LEVELS BY VISUAL PERCEPTION

Low Visual Perception

	TRAVEL INDEPENDENCE					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	28.6%	28.6%	42.8%	0.0%	100%	(14)
Cane	20.4	37.4	42.2	0.0	100	(59)
Dog Guide	21.0	25.0	41.5	12.5	100	(24)
Human Guide	87.8	10.0	0.0	2.2	100	(90)
Homebound, Other	—	—	—	—	—	(3)
Number	(103)	(41)	(41)	(5)		(190)

High Visual Perception

	TRAVEL INDEPENDENCE					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	10.8%	39.0%	51.2%	0.0%	100%	(195)
Cane	22.3	55.5	19.4	2.8	100	(36)
Dog Guide	0.0	33.3	50.0	16.7	100	(6)
Human Guide	81.9	13.9	4.2	0.0	100	(72)
Homebound, Other	—	—	—	—	—	(1)
Number	(86)	(108)	(113)	(3)		(310)

TABLE 5.9 PERCENTAGES OF PRIMARY TRAVEL MODE GROUPS AT TRAVEL EFFICIENCY LEVELS, BY VISUAL PERCEPTION

Low Visual Perception

	TRAVEL EFFICIENCY					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	21.5%	35.7%	42.8%	0.0%	100%	(14)
Cane	16.9	57.7	25.4	0.0	100	(59)
Dog Guide	8.4	54.1	37.5	0.0	100	(24)
Human Guide	55.5	44.5	0.0	0.0	100	(90)
Homebound, Other	—	—	—	—	—	(3)
Number	(67)	(92)	(30)	(1)		(190)

High Visual Perception

	TRAVEL EFFICIENCY					
Travel Mode	*Low*	*Medium*	*High*	*No Answer*	*Total Percent*	*Number*
Unaided	6.7%	54.4%	38.9%	0.0%	100%	(195)
Cane	16.7	64.0	16.7	2.6	100	(36)
Dog Guide	0.0	50.0	50.0	0.0	100	(6)
Human Guide	52.8	44.4	1.4	1.4	100	(72)
Homebound, Other	—	—	—	—	—	(1)
Number	(58)	(164)	(86)	(2)		(310)

5.4 The Concern With Travel

Introduction. The objective findings in our sample of 500 blind persons have suggested widespread deficiency in travel function. This section deals with some of the subjective aspects of travel function. To what extent, for example, do blind persons express satisfaction with their level of performance? How much motivation is there for active consideration of alternatives to present modes of travel? How much thought is given to the choice of the present mode of travel? The answers to these questions should describe some aspects of the kind of concern which blind persons express concerning travel.

Satisfaction with Present Travel Performance. Most blind persons are not highly satisfied with their travel performance. Somewhat under half (about 46%) express little or no satisfaction; slightly over a third (35%) express moderate satisfaction; and slightly under a fifth (19%) are highly satisfied. This picture of extensive dissatisfaction is broadly similar at both low and high visual acuity levels. (Table 5.10. See Appendix B for components and weighting of "Satisfaction with Own Travel" scale.)

Motivation for Improvement of Travel. This general picture of poor travel performance, considerable travel difficulty, and extensive dissatisfaction is not translated into active consideration of improvement in travel performance. Respondents were asked a series of questions indicating possible desire for change or reasons for change. (See Appendix B for scale items and weighting.) The responses of two out of three indicate little or no motivation for change (35% no motivation, 31% slight motivation). About 10% indicated some motivation, about 16% indicated a good deal of motivation and about 8% indicated a great deal of motivation for improvement of travel performance. (Table 5.11)

Consideration Given Choice of Mode of Travel. A closely related question concerns the amount of thought which went into the selection of the current mode of travel. Respondents were asked whether they had given a great deal of thought; a little thought; or no thought to the choice of their mode of travel. Fewer than one in four (24%) gave serious consideration to the choice of mode; 14% gave little thought; while 51% gave no particular thought to the decision on travel mode. (Information is not available for the remainder.) Considering the special characteristics of the sample, namely, that it is confined to the active years between 15 and 55 and that the upper range of visual acuity was purposely undersampled, it might be expected that as important a step in travel adjustment as the choice of travel mode would receive considerable attention. Instead, for the most part, such decisions "just happen." (Table 5.12)

Summary. The over-all picture of travel adjustment may be broadly outlined as follows: Objectively, the potential for fully satisfactory travel performance is not reached by most blind persons. Moreover, there is a general trend of dissatisfaction with travel performance. Yet the dissatisfaction is not translated into active efforts to improve travel performance, or to give considerable thought to the selection of a travel mode. What is described is a low level of performance and satisfaction, a situation which seems to be accepted by the majority of blind persons as part of the limitations imposed by blindness. This is, of course, an interpretation of one side of the situation. The other side is that there may be insufficient stimulation and help because of over-protective attitudes of family and community, and because of the insufficiency of highly skilled resources for rehabilitation.

The statements of findings are based on the following tables.

TABLE 5.10 SATISFACTION WITH TRAVEL PERFORMANCE, BY VISUAL ACUITY

	SATISFACTION WITH TRAVEL			
Visual Acuity	*No or Little*	*Moderate*	*High*	*Percent*
5/200 or less	47.3%	32.3%	20.4%	100%
More than 5/200	43.0	40.1	16.9	100
Total	45.8	35.2	19.2	100
Number	(229)	(175)	(96)	(500)

TABLE 5.11 MOTIVATION FOR TRAVEL CHANGE

None	35.0%
Slight	31.0
Some	9.8
Good Deal	16.2
Great Deal	8.0
Total	100.0%
No. of Cases	(500)

TABLE 5.12 AMOUNT OF THOUGHT GIVEN TO CHOICE OF CURRENT TRAVEL MODE

Great deal of thought	24.2%
Little	14.0
None	50.6
Don't know, No answer	10.8
No information	.4
Total	100.0%
No. of Cases	(500)

5.5 The Decision Process in the Choice of Mode of Travel

Introduction. Any analysis of the process through which a particular mode of travel is chosen must be preceded by mention of a previous finding; namely, that for most persons this decision process is vague and indeterminate. Only for a minority are there discussions about modes of travel and conscious weighing of alternatives.

The findings to be presented are, therefore, based upon the reports of slightly under one-fourth of the sample. These respondents reacted to a series of open-ended questions and probes aimed at exploring all factors possibly involved in travel decisions. Thus, recall was assisted without influencing responses in a particular direction.

One set of factors found to be involved in travel mode choices for some respondents included changes in health or visual acuity. For example, a person who travelled without aids may have found that deteriorating vision required a shift to some form of aided travel; that is, with cane, dog guide or human guide. Physical debility may have occasioned the shift from some other mode of travel to travel with a human guide.

Other sets of factors are suggested by replies given in terms of dissatisfaction with the efficiency or impracticality of a previous mode of travel. Thus, a cane traveller might decide that there was greater safety and speed with a dog guide, or human guide. A human guide traveller might become dissatisfied with dependence upon other persons whenever leaving the home. Quite similar in content, though slightly different in form, were replies which stressed the attractiveness of a new mode of travel. The reasons for attractiveness of the new mode tend to correspond inversely to the reasons for dissatisfaction with the old.

Personal influences were often reported to intervene in the choice of mode of travel. For example, an agency worker might suggest and make arrangements for cane travel training for a person who had travelled with a human guide.

Situational changes were often relevant. A blind person may have experienced a change of employment or residence requiring more extensive travel which could no longer be carried on without an aid, such as dog guide or cane.

While each of these factors are involved for some blind persons for whom the decision process is an active one, the question is raised as to their relative distribution.

General Reasons for Travel Mode Selection. Personal influences were cited by the largest group of respondents (24%) as being involved in the choice of travel mode. Next in importance was dissatisfaction with the old mode of travel (18%) followed closely by attraction of the new mode, cited by 16%. Deterioration of vision was reported by 15% to have impelled a change of travel mode. Situational changes, such as employment or residence shift, death of a family member who previously acted as a guide, were reported by nearly 14%, and changes in general health requiring change in mode of travel by nearly 2%. The totals exceed 100%, since some respondents gave more than one reason. (Table 5.13)

This broad categorization of reasons suggests elaboration in two directions. One such direction is the specification of reasons by the particular mode of travel finally selected. The other direction is more detailed analysis of the nature of personal influences. The next two sub-sections are directed to these elaborations.

Amount of Thought Given to Choice of Travel Mode. In order to gain further understanding of factors involved in the decision process, the sample was first sorted out into those who had and who had not undertaken travel training. Presumably, those who undertook training gave more indication of concern for travel function than those who did not. Within these two groups, respondents were grouped by their current mode of travel. It was then possible to sort out the reasons for the various travel groups involved.

It is of interest, first, to report that 147, or about 29% of the sample, had ever undertaken training. Thus, less than a third of a sample of blind persons in the active years between 15 and 55 had ever undertaken travel training of any duration, or quality. This finding needs to be viewed against the assumption held by persons in the field of service to the blind; namely, that travel training offered by skilled trainers is necessary to the achievement of desirable travel performance.

Persons who underwent training are three times as likely to have given a great deal of thought to choice of travel mode than those who have not, 48% to 14%. Also, those who underwent training in the use of dog guides are even more likely to have given a great deal of thought to their decision, 63%. Those who undertook cane travel training include 41% who thought a great deal about the choice of mode, whereas cane travellers who have not had training include 33% who gave a great deal of thought to the choice of mode.

The untrained cane travellers may be compared with the untrained users of human guides, who are much less likely, 14%, to have given a great deal of thought to travel mode. Those who travel without aids of any kind, and who have not had travel training, include the smallest portion classified as giving a great deal of thought to choice of travel mode. However, those who travel without aids include much the largest proportion of those who have sufficient vision (even though legally blind) so that travel is not a problem in the same sense as for those with lower visual acuity or total blindness.

Thus, the general trend of lack of deliberation over choice of mode of travel is deviated from by nearly half of those who have had any type of travel instruction, and by two-thirds of those who have undertaken instruction in the use of a dog guide. Those without training, who constitute two-thirds of our sample, are responsible for the finding of widespread failure to give a great deal of conscious attention to the choice of mode of travel. (Table 5.14)

Reasons for Choice of Mode, by Mode of Travel. The question may now be addressed as to the reasons for choice of mode of travel among these travel groups. Relative differences appear when trained and untrained groups are compared. Thus, the trained groups are much more likely to list personal influences as a reason for choice of mode of travel than are the untrained groups, 35% to 19%. The situation is similar for the reasons of dissatisfaction with old mode, 34% to

12%; with attraction to new mode, 29% to 11%, and with external changes in situation, 22% to 10%. In large part these differences exist simply because the untrained groups tend to give fewer reasons of any kind, since they tend to give much less thought to the decision process. However, vision changes are listed by approximately the same proportion (17%) as a reason for adopting the current mode of travel, and health changes are listed by few in either group.

When particular modes of travel are examined, other differences appear. The predominant reason among those who have been trained in the use of dog guides is dissatisfaction with the old mode of travel, 46%, although other reasons are also given. Among trained cane travelers, the predominant reason for selection of mode is "personal influences," 36%. Among untrained cane travellers, "personal influences" is also the predominant reason, but to an even higher degree, 47%.

Among those who travel with a human guide, the reason listed by the largest proportion is simply "changes in vision" (25%). It may be noted that this type of reason is much more unspecific and unselective than dissatisfaction with old mode, or attraction to new mode. In this comparison, as with many others, those who travel with human guides seem less motivated to change, more dependent, than those who travel with non-personal aids (cane and dog). The situation is not very different for those who travel without aids of any kind, generally a high vision group. They, too, report that changes in vision are responsible for the adoption for their mode of travel. (Table 5.15)

The situation may be broadly summarized as follows, so far as differences in reason for adoption of mode of travel are concerned. Persons trained in the use of dog guides (there are no untrained dog guide users in the sample) and to a lesser extent cane travellers, are distinguished from human guide travelers and persons who travel unaided. The push of dissatisfaction and the pull of more advantageous methods of travel are frequently cited. Environmental pressures requiring readjustment are associated with the use of dog guides, and to a lesser extent also among cane travellers. Personal influences are particularly important to these two groups, in contrast to those who rely on human guides or travel unaided.

Sources and Types of Personal Influence. We may now examine more closely the nature of personal influences upon the decision process, a factor particularly important to cane and dog guide travellers. In this sub-section will be examined the kinds of influences exerted and how these vary with the persons reported to exercise this influence.

In the comments made by respondents, three broad kinds of personal influences emerged. First, a group of respondents reported that they met persons whose independence and performance impressed them with the potentialities that could be achieved by blind persons like themselves. These statements were classified under "Role Model." Respondents also referred to persons who encouraged them by words (rather than by example). For example, statements made by others may have encouraged the blind person to believe that he could still lead a full life. These references were classified under "General Encouragement." Finally, respondents spoke of getting specific information as to how and where to get travel services or training. These statements were classified as "Specific Referrals."

Approximately 145 (29%) gave one or more instances of personal influences. Most frequent was "Specific Referral," reported by 60% of the 145. In these instances, specific information or arrangements were reported. Next most frequently, "General Encouragement" was reported, either referring to all phases of adjustment, or referring to travel independence in general. The "Role Model" type of influence was reported in about 12% of the instances where personal influence was described. Most often, family members are cited as the source of personal influences (36% of all such sources). These are followed by 28% for agency personnel, 14% by blind friends, 9% for sighted friends and 13% by miscellaneous others. (Table 5.16)

Differences appear in the type of influence exerted by these groups. Family members, somewhat surprisingly, are noted in 55% of the citations concerning them to make specific referrals, and in 30% of the citations to provide general encouragement. Agency personnel citations have a more marked proportionate emphasis on specific referrals (74%) and somewhat less weighty a secondary emphasis on general encouragement (21%). Blind friends constitute the only group, even though smaller than the others, for whom the predominant type of influence is that of role model (48%). Indeed, almost all the references to role models appear in connection with blind friends, who by their behavior, serve as examples for the respondents. In one-third of the citations concerning blind friends, they are reported to influence through specific referrals, and in 14% of the instances to provide general encouragement. There are only 14 references to sighted friends as sources of influence; these are divided between specific referrals and slightly fewer instances of general encouragement. (Table 5.17)

Thus, specific referrals and general encouragement are provided by all groups. However, blind friends serve almost uniquely as role models, whose example is important in influencing behavior.

TABLE 5.13 REASONS GIVEN FOR ADOPTING PRESENT MODE OF TRAVEL

(All Cases)

	Percentage of Sample*
Physical Changes:	
Health	1.8%
Vision	15.0
Attitudes to Travel Mode:	
Dissatisfaction with old mode	18.4
Attraction of new mode	16.2
External Influences:	
Environmental changes	13.6
Personal influences	24.0
Number of Cases	(500)

---

*Percentages do not total 100.0% because some respondents gave more than one reason, and some gave no reason.

TABLE 5.14 AMOUNT OF THOUGHT GIVEN TO CHOICE OF TRAVEL MODE BY TYPE OF MODE, FOR TRAINED AND UNTRAINED RESPONDENTS

Thought Given To Choice	*Underwent Training*			*Did Not Undergo Training*			
	Dog Guide	*Cane*	*All Training**	*Cane*	*Unaided*	*Human Guide*	*All No Training*
Great Deal	62.8%	41.1%	47.6%	33.4%	9.7%	14.3%	14.4%
Little	14.0	20.0	17.0	20.0	12.0	11.3	12.8
None	23.2	34.7	32.0	40.0	58.3	64.6	58.4
Don't Know; No Answer	0.0	4.2	3.4	4.4	20.0	8.3	13.6
No Information	0.0	0.0	0.0	2.2	0.0	1.5	0.8
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number of Cases	(43)	(95)	(147)	(45)	(175)	(133)	(353)

---

*The number of cases in this column is greater than the sum of dog guide trainees and cane travelers, since it includes 9 persons who trained in unaided travel.

TABLE 5.15 REASONS FOR CHOICE OF TRAVEL MODE FOR TRAINED AND UNTRAINED RESPONDENTS*

	Training			*No Training*			
Reasons For Choice	*Dog** Guide*	*Cane*	*All Training*	*Cane*	*Unaided*	*Human Guide*	*All No Training*
Physical Changes:							
Health	2.3%	0.0%	.7%	6.7%	0.0%	3.8%	2.3%
Vision	7.0	16.8	12.9	11.1	12.0	24.8	16.7
Attitudes to Modes:							
Dissatisfaction with Old Mode	46.5	29.5	34.0	37.7	6.3	10.5	11.9
Attraction to New Mode	34.9	25.3	29.3	26.7	8.6	8.3	10.8
External Influences:							
External Change	34.9	16.8	22.4	17.8	7.4	10.5	9.9
Personal Influences	34.9	35.8	35.4	46.7	13.1	18.0	19.3
(Number of Cases)	(43)	(95)	(147)***	(45)	(175)	(133)	(353)

---

*Percentage does not equal 100% because some persons gave more than one reason for choice of mode and some gave none.

**"Dog Guide" includes persons who trained in the use of a dog but never travelled with one.

***Includes 9 cases of training in unaided travel.

TABLE 5.16 TYPE OF PERSONAL INFLUENCES REPORTED BY RESPONDENTS

Type of Influence	*Percentage of Persons**
Role Model	11.7%
General Encouragement	31.0
Specific Referral	60.0
Other	4.1
(Number of Cases)	(145)

---

*Percentages do not total 100.0% since respondents could name more than one type of influence.

TABLE 5.17 TYPE OF INFLUENCE BY TYPE OF PERSON INFLUENCING CHOICE OF TRAVEL MODE

(for those with visual acuity of 5/200 or less)

	Type of Person Who Influenced Choice of Travel Mode				
*Type of Influence**	*Family Member*	*Blind Friend*	*Sighted Friend*	*Agency Person*	*Other*
Role Model	5.5%	47.6%	0.0%	4.8%	10.0%
General Encouragement	29.1	14.3	42.9	21.4	50.0
Specific Referral	54.5	33.3	57.1	73.8	35.0
Unclassified, other	7.3	4.8	0.0	0.0	5.0
No Information	3.6	0.0	0.0	0.0	0.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%
(Number of Cases)	(55)	(21)	(14)	(42)	(20)

---

*Some persons were reported to have exerted more than one type of influence.

CHAPTER VI

INFLUENCES RELATED TO THE CONSIDERATION OF DOG GUIDES

6.1 Introduction

Previous chapters have estimated the extent of demand for dog guides and investigated the characteristics of blind persons as related to their readiness for dog guide use. The general characteristics of travel adjustment among blind persons have also been discussed. This chapter returns to more specific emphasis on the dog guide mode of travel. The general theme concerns the nature of influences involved in the choice of a dog guide.

The underlying premise of the chapter is that an exploration of influences encompasses the perceptions and attitudes of blind persons toward the dog guide, the factors they cite impeding actual choice of a dog guide, and the degree and impact of personal and mass media influences upon the consideration of dog guides by blind persons. This analysis permits inferences as to the most effective influence groups and types of information.

6.2 Perceptions of Dog Guides by Respondents

Introduction. This section begins with the responses to a question as to the preferred mode of travel in the hypothetical situation where blind persons are able to learn each of them. This question taps abstract choices, not directly related to the respondent's choices for himself. The respondent's own attitudes to dog guides are next analyzed through presentation of findings grouped into various scales; first on general attitudes. Because beliefs about the images held by others may affect attitudes, irrespective of the beliefs actually held by these others, respondents' estimates of images held by the public and by family and friends, are analyzed. Two specific factors involved in the consideration of dog guides are next evaluated: the degree of resistance to the care and maintenance responsibilities associated with dog guide use; and the extent to which the situation of the respondent is believed by him to be compatible with dog guide use. Finally, the extent to which respondents have considered dog guides for themselves is presented.

Preferred Mode of Travel. When respondents were asked to choose the hypothetical "best" mode of travel, the "safest" mode of travel, and the one occasioning "least nervous strain," most of them selected the dog guide over cane or unaided travel. The following table gives the percentage distributions on pertinent items.

TABLE 6.1 RESPONDENT CHOICES AMONG MODES OF TRAVEL

	Dog Guide	*Cane*	*Unaided*	*No Infor.*	*Total Percent*	*No. of Cases*
"Which do you think is generally the best method for a person who is able to learn each of them?"	39.0%	22.6%	27.6%	10.8%	100%	(500)
"Which do you consider the SAFEST METHOD?"	66.6	16.0	7.4	10.0	100%	(500)
"Which do you consider the LEAST SAFE METHOD?"	2.4	8.0	77.0	12.6	100%	(500)
"Which Involves the Most Nervous Strain?"	8.0	7.2	70.0	14.8	100%	(500)
"Which Involves the Least Nervous Strain?"	57.2	19.2	8.8	14.8	100%	(500)

It is clear from these responses, and from other tables to be presented, that the problem of limited potentiality for dog guides is *not* one of negative evaluation of dog guides among blind persons. Generally speaking, the dog guide mode of travel is positively valued.

Attitude Scales. Attitudes toward dog guides may be more dependably ascertained by grouping several items into scales. In the paragraphs that follow, the general attitudes of respondents to dog guides, the respondents' estimate of the general public image of dog guides, and of the reaction of family and friends to dog guides, will be discussed. Similarly, the respondents' acceptance of or resistance to the care and maintenance responsibilities entailed in dog guide use, and the extent of negative indications for dog guide use because of situational difficulties will be presented. The technical data involved in the construction of the scales is given in Appendix B. The tables on which the statements are based are given on adjoining pages.

General Attitudes. As for general attitudes, over half are positive or very positive, a fourth are "medium," and under a fourth are negative or very negative. Thus the positiveness of attitude is predominant, with a substantial number whose neutral attitudes may be susceptible to change, and a minority whose negative attitudes are probably not susceptible to change. (Table 6.2)

Estimated Public Image. A slightly more negative picture obtains when respondents are asked to estimate the positiveness or negativeness of the public image of dog guides. Nearly half (45%) see the public image as positive or very positive, about 15% estimate a "medium" attitude, while about 40% estimate a negative or very negative public image. Thus about two out of five persons consider that a dog guide attracts undue public attention, or that there are problems in controlling a dog. This estimate of negative public image is held by a large minority, and suggests the need for interpretation to stimulate reconsideration of certain opinions, about the public image of dog guides. (Table 6.3)

Family and Friends. The reactions of family and friends are seen by nearly three-fifths of the respondents as entailing little or no rejection, (59%); under a fourth report some rejection (24%); while some 17% report complete rejection. (Table 6.4)

Care and Maintenance. As for the degree of acceptance of care and maintenance responsibilities, nearly three-fourths report substantial or partial acceptance (73%), while the remainder report some or substantial resistance to such responsibilities. The presumed financial stress of feeding a dog plays an important role in the negative responses. Here again, so little is actually known of the practicalities of dog guide care that the simple communication of accurate information may serve to alleviate fears in this area. (Table 6.5)

Situational Difficulties. To what extent do respondents see situational difficulties in dog guide training and use? Such situational difficulties include, among others, inability to spare time for training and perceived difficulties in the home, social agency or job situation. Little or no negative indications appear for nearly half the respondents (45%), some negative indications appear for about 38% and high negative indications appear for about 17%. It may be recalled that a number of persons were placed in the "situational difficulties" reservoir because of the number of such situational difficulties. Given capacity, motivation and need for dog guide use, the existence of situational difficulties might be alleviated through rehabilitative services by agencies, and thus increase the immediately available reservoir for dog guide training. (Table 6.6)

Dog Guides for Own Use. The previous questions do not deal directly with the respondents' desire for a dog guide for themselves. Here, the picture is more negative. Over four-fifths have either never considered, or if they have, never planned to obtain a dog guide. Slightly less than 5% have distant or indefinite plans, while less than 3% have more immediate plans. The remainder are either dog guide users, or information is not available. (Table 6.7)

Summary. A majority of blind persons place a good deal of value upon advantages of the dog guide mode of travel. There are negative features for a substantial minority, however, when the respondent's estimate of the opinions of dog guides held by the general public and by family and friends are considered. The specific negative features presumed to exist include problems in the care, maintenance and control of dog guides, although the contribution to travel adjustment is positively viewed. Situational difficulties are cited which are related to these care and maintenance responsibilities.

The positive attitudes do not add up to active and effective interest in securing dog guide training. This is true not only because of the questions raised about care and control of dog guides, but because of the findings cited in the previous chapter. A major deterrent exists in the general apathy toward improvement of travel mobility. It is noted, too, that very many blind persons are ruled out of reservoir groups by reason of relative excess of vision, and by other incapacities for dog guide training and use.

TABLE 6.2 RESPONDENTS' GENERAL ATTITUDES TOWARD DOG GUIDES

Attitude Toward Dog Guides	*Percent*
Very Negative	11.4%
Negative	7.0
Medium	25.4
Positive	28.2
Very Positive	27.6
No Answer	.4
Total	100.0%
(Number of Cases)	(500)

TABLE 6.3 RESPONDENTS' ESTIMATE OF PUBLIC IMAGE OF DOG GUIDES

Respondents' Estimate	*Percent*
Very Negative	13.0%
Negative	26.8
Medium	15.2
Positive	27.6
Very Positive	17.4
Total	100.0%
(Number of Cases)	(500)

TABLE 6.4 RESPONDENTS' ESTIMATE OF REACTION OF FAMILY AND FRIENDS TO DOG GUIDES

Respondents' Estimate	*Percent*
Complete Rejection	17.2%
Some Rejection	23.6
Slight Rejection	34.6
No Rejection	24.6
Total	100.0%
(Number of Cases)	(500)

TABLE 6.5 ATTITUDE TO CARE AND MAINTENANCE OF DOG GUIDES

Attitude	*Percent*
Acceptance of Care	44.0%
Some Acceptance	29.2
Some Resistance	14.4
Extensive Resistance	12.4
Total	100.0%
(Number of Cases)	(500)

TABLE 6.6 APPROPRIATENESS OF RESPONDENTS' SITUATION FOR DOG GUIDES

Category	*Percent*
Little or no negative indication	44.8%
Some negative indication	38.4
High negative indication	16.6
No Information	.2
Total	100.0%
(Number of Cases)	(500)

TABLE 6.7 RESPONDENTS' DESIRE FOR DOG GUIDE

Category	*Percent*
Never Considered a Dog Guide	63.0%
Considered, but no plan to Obtain Dog Guide	18.2
Distant or Indefinite Plans	4.8
Plans to Obtain Dog Guide in Near Future	2.6
Dog Guide Users	6.0
No Information	5.4
Total	100.0%
(Number of Cases)	(500)

6.3 Reasons Reported For Not Obtaining Dog Guide Training

Introduction. The negative aspects of attitudes to dog guides may be usefully specified by considering three groups of respondents: those who desired dog guides but had no immediate plans to secure them; those who had once considered dog guides but had changed their minds; and those who never considered obtaining dog guides.

Reasons for Postponement. There were 37 who wanted dog guides, but postponed plans for getting them. Each gave one or more reasons for postponement. About three-fifths considered that some situational factor required alteration. More space was needed for a dog, or suitable employment was awaited, or family objections were to be overcome. Nearly a third either lacked information as to the procedures for getting a dog, or were misinformed about them. Thus, some believed it was necessary to save up some large sum of money to purchase a dog, or believed they needed a special referral. A fifth considered they lacked personal qualifications, whether or not this was true. About a tenth indicated that their current mode of travel was still adequate even though they had long range plans for getting a dog guide. (Table 6.8)

Reasons for Change of Decision. A much larger number, 94, had changed an original decision to obtain a dog guide. Two-thirds of these respondents mentioned situational difficulties as the reason for the change. The next most frequent group of respondents, nearly half, mentioned physical health factors of various kinds necessitating abandonment of plans for dog guide training. More than a third gave some type of misinformation about dog guide training or use. About a fifth reported that their attitudes shifted negatively, citing difficulties in discipline or control of dogs, or presumed negative public images of dog guides.

In both of these two groups who had considered getting a dog guide, the major reasons for postponement or change of decision involved factors which are difficult to alter, such as situational impediments or health factors. However, one-third in either group indicated misinformation on such factors as fees charged for a dog guide and related services (how much and why charged), presumed admission requirements, need for sponsorship and the like. Need for dissemination of accurate information is clearly indicated by the substantial prevalence of inaccurate notions concerning requirements and procedures for dog guide training. This problem is elaborated in a later sub-section. (Table 6.9)

Reasons for not Considering a Dog Guide. Sixty-five percent (325) had never considered a dog guide. Much the largest group of these (65%) considered their present mode of travel adequate for their present needs. Many of these persons had sufficient travel vision for unaided travel. However, others gave this reason because of limited goals for independent travel. They may have capacity, need and situation requirements for dog guide use; but their lack of interest springs from a lack of incentive for improvement in mobility. A primary task is to help this group set higher goals, since their generally restricted view of the mobility potentials of blind persons prevents them from travelling better with any mode, or considering dog guides, or improving their general social function.

A third of those who never considered dog guides indicated negative attitudes derived from beliefs that the public image of dog guides is negative, or that dog guides attract undue attention, or that the care and maintenance of dogs is troublesome or expensive. About 14% refer to physical factors (mainly too much vision to warrant a dog guide). A similar proportion refer to situational reasons, such as lack of space, proper housing, or employment factors. (Table 6.10)

TABLE 6.8 REASONS GIVEN BY RESPONDENTS FOR POSTPONING PLANS TO OBTAIN DOG GUIDES

Reasons	*Percent**
Situational Reasons	59.4%
Respondent Lacks Information	32.2
Perceived Lack of Personal Qualifications	18.9
Present Mode Still Adequate	16.2
Other	10.8
(Number of Cases)	(37)

---

*Percentages do not total 100% since respondents could give more than one reason.

TABLE 6.9 REASONS GIVEN BY RESPONDENTS FOR CHANGING ORIGINAL DECISIONS TO OBTAIN DOG GUIDES

Reasons	*Percent**
Situational Factors Require Alteration	67.0%
Physical Health	47.6
Misinformation	36.2
Attitude to Dog Shifted Negatively	19.1
(Number of Cases)	(94)

---

*Percentages do not total 100% since respondents could give more than one reason.

TABLE 6.10 REASONS GIVEN BY RESPONDENTS FOR NEVER CONSIDERING DOG GUIDES

Reasons	*Percent of Category*	*Percent of Total**
Present Mode of Travel		65.0%
Adequate for present needs	98.1%	
Inadequate for present needs	.5	
Other references to present mode	1.4	
	100.0%	
Attitudes Towards Dogs		33.4
Image of dog negative	53.2%	
Maintenance and care of Dog (troublesome)	24.8	
Inadequate for specific needs	2.8	
Other attitudinal	19.2	
	100.0%	
Physical Health		14.4
Health needs improvement	6.4%	
Vision unstable (too much, etc.)	63.8	
Hearing	2.1	
Other physical	27.7	
	100.0%	
Situational Factors Require Alteration		13.5
Employment	18.2%	
Facilities: space for dog, housing	50.0	
Other situational	31.8	
	100.0%	
(Number of Cases)		(326)

---

*Percentages do not total 100% since respondents could give more than one reason.

6.4 Personal Influences and the Consideration of Dog Guides

Introduction. The last two sections have examined the dispositions of blind persons toward dog guides. Sources of influence which affect these dispositions are now to be examined. Mass communications, such as radio, television and reading material constitute one such formal source. However, as a variety of researches into mass media have indicated, their influence rarely goes unfiltered from communication to subject. Rather, a network of informal, personal influences intervene between formal influences and the subjects. These informal influences are provided by significant persons in the environment of the subjects.[1]

The section which follows focuses upon these personal influences. It begins by presenting, for a variety of significant groupings of persons, the percentage of respondents who report discussion with them. This represents a *coverage index* for such groups as family members, dog guide users, other blind persons, sighted friends, etc. The favorableness of such discussions is also presented; that is, the percentage of favorable discussions among those held with various classes of discussants.

The second sub-section presents a classification of the specific comments made by each class of discussant about dog guides. Two following sub-sections examine the interrelationships between the personal influences and the amount of consideration given to dog guides by the respondents; first as to coverage and favorableness, and second by the amount of discussion. The amount of discussion is also related to the amount of misinformation. In a final sub-section findings are briefly summarized and selected inferences drawn.

Coverage and Favorableness. The interview schedule included questions as to whether the respondents had ever discussed dog guides with a variety of specified persons, and what the nature of the discussion was. Interestingly, dog guide users were reported as sources of information or comment about dog guides by a larger proportion of respondents (38%) than was true for other blind persons (32%), family (32%), sighted friends (29%), social agency workers (20%), work associates (10%) or employers (6%). Considering the small number of dog guide users (about one in a hundred legally blind persons), it is obvious that dog guide users constitute a source of information or comment about dog guides which is out of proportion to their numbers.

Moreover, dog guide users transmit almost the highest degree of positive discussion. They are reported as having discussed dog guides favorably by 86% of the respondents with whom they have talked. Only employers are reported by a slightly larger proportion of those with whom they have talked, (87%) to have favorable attitudes. However, this positive discussion is relatively unimportant when viewed against the minimal amount of dog guide discussion which the employer group contributes.

---

[1] The problem of influence and summaries of relevant research are discussed in Katz, E. and Lazarsfeld, P. F., *Personal Influences: The Part Played by People in the Flow of Mass Communications,* Free Press, Glencoe, Ill. 1955.

Other blind persons (non-dog guide users) rank second as sources of comment, but are least favorable (seventh). A smaller proportion of the respondents with whom they have talked report favorable attitudes (58%). Family members, who are third highest as sources of comment, are fourth in positiveness (69%). Sighted friends, who are fourth highest as sources of comment, are third highest in positiveness (83%). Workers in agencies for blind persons are fifth highest as sources of comment, but sixth in positiveness (64%). Work associates, who are sixth as sources of comment, are fifth highest in positiveness (just under 69%).

In general, if there is any discussion by respondents with blind persons about dog guides, it is likely to be positive, but in varying degrees. Dog guide users are the most important sources of positive influence by virtue of their highest rate of comment index and very high rate of positive discussion. Blind persons who do not use dog guides are also important, but in another way. They provide the second highest source of comment, but are least positive toward dog guides. Other groups of persons are intermediate in comment and favorableness of discussion.

TABLE 6.11 COVERAGE AND FAVORABLENESS INDICES FOR CATEGORIES OF PERSONS DISCUSSING DOG GUIDES WITH RESPONDENTS

Persons with Whom Discussed	*Coverage Index**	*Favorableness Index***
Dog Guide Users	38.2%	85.8%
Other Blind Persons***	32.3	57.7
Family	31.5	69.3
Sighted Friends	29.5	83.0
Workers with Blind	19.7	64.3
Work Associates	10.2	68.7
Employers	6.2	87.1
(Number of Cases)	(500)	

---

*Percentage of all respondents who report discussing use of dog guides with designated persons.

**Percentages of respondents who report favorable attitudes towards dog guides on part of those with whom respondent discussed use of dog guides.

***Not dog guide users.

Comments of Persons Cited as Discussants. The general positiveness or negativeness of comments reported made to respondents by various groups of persons has been considered. The specific content of these comments is also of interest. The comments are widely scattered, but for purposes of presentation may be classified into a few broad headings. In the order of frequency, the types of comments are:

1) Positive comments on the contribution of the dog guide to mobility (27% of all comments made).

2) Miscellaneous positive comments about dog guides (24%).

3) Positive comments on the contribution of dog guides to the independence of blind persons (16%).

4) Negative comments about dogs as dirty, offensive, uncontrollable, etc. (14%).

5) Negative comments about dogs as guides; unreliable, unsafe, creating dependency, hindering employment (8%).

6) Positive comments about dog guides as companions (6%).

7) Positive comments about dog guide training (7%).

There are interesting differences in the types of comments reported for the different classes of discussants. Thus, positive comments about the contributions of dog guides to mobility are relatively more emphasized by dog guide users and sighted friends, least so by family members. Miscellaneous positive comments predominate among those made by work associates and sighted friends, least so among comments made by social agency workers. Positive comments as to the contribution of dog guides to independence of blind persons are relatively most emphasized by dog guide users, least so by work associates, though social agency workers and family members also tend to give little relative emphasis to these comments.

Negative comments, both about dogs in general, and about the use of dog guides, are relatively most emphasized among the comments of other blind persons to respondents, and among those of work associates and social agency workers. These types of negative comments are least emphasized among the comments made by dog guide users and sighted friends.

Positive comments about dog guides as companions are relatively most emphasized by work associates and dog guide users, least so by social agency workers, employers and family members. Finally, positive comments about training for dog guides are relatively more emphasized among the comments of employers and family members, least so by dog guide users and other blind persons.

The comments can be summarized in another way. Most positive comments refer to the contributions of dog guides to increased mobility or independence. These types of comments are most characteristic of dog guide users and sighted friends, least characteristic of family members and other blind persons. Negative comments refer most frequently to qualities of dogs per se. These are most characteristic of other blind persons and work associates; and least characteristic of dog guide users, sighted friends and employers. On use of the dog guide, negative statements are most characteristic of workers with the blind, work associates and other blind persons.

In general, then, favorable discussion is characteristic of dog guide users, sighted friends and, though only occasionally referred to, employers. Sources of negative discussion include other blind persons, workers with blind persons[2] and family members.

TABLE 6.12 CLASSIFICATION OF COMMENTS ATTRIBUTED TO CATEGORIES OF PERSONS*

	POSITIVE COMMENTS					NEGATIVE COMMENTS		
Categories of Persons	*Companionship*	*Effective Guide*	*Independence*	*Concerning Training*	*Other*	*Dog by Itself*	*Use of Dog*	*(No. of Respondents)*
Dog Guide Users	10.5%	47.4%	32.6%	0.5%	22.6%	5.3%	3.7%	(190)
Other Blind	9.3	29.2	18.6	1.2	32.3	41.0	15.5	(161)
Family	6.4	22.3	15.3	12.1	31.2	17.2	9.6	(157)
Sighted Friends	7.5	38.8	21.8	6.1	35.4	8.8	7.5	(147)
Workers with Blind	6.1	30.6	15.3	10.2	22.4	19.4	18.4	(98)
Work Associates	11.8	33.3	11.8	5.9	41.2	25.5	15.7	(51)
Employers	6.4	29.0	19.4	12.9	29.0	9.7	6.4	(31)

*Percentages do not total to 100% since respondents could give more than one response to each question.

Coverage and Favorableness of Discussants as Related to the Consideration of Dog Guides. One of the problems in tracing the effect of discussions about dog guides with other persons is that respondents who are favorable to dog guides will tend to seek out discussants who are also favorable. Cause and effect are difficult to assess without an experimental design. However, the nature of the data to be presented makes it difficult to assume that personal contacts do not have some effect upon attitudes to dog guides, as well as attitudes to dog guides having some effect upon the amount and nature of personal contact.

---

[2] The findings as to the responses describing the relatively negative influence provided by workers in agencies for the blind receives indirect confirmation in another study. A mail questionnaire to a sample of members of the American Association of Workers for the Blind investigated opinions and attitudes toward dog guides. The dog guide mode of travel was considered to rank above other modes only in safety from personal assault. It was viewed negatively as providing less feeling of independence, and less frequency of travel. (Finestone, Samuel. "Travel Services for Blind Persons" Research Center, New York School of Social Work, Columbia University, Mimeographed, 1958.)

These negative opinions are at variance with the findings of the Bauman study of clients of agencies for the blind, the Veterans Administration study of war-blinded veterans, and the current study (see Section 7.6).

In the analysis which follows, only respondents with visual acuity of 5/200 or less will be considered, since others would be excluded from dog guide training by reason of visual acuity alone. These respondents are divided into three groups: 177 who have *never* considered obtaining a dog guide (the "no consideration" group); 103 who have considered obtaining a dog guide, though they may be postponing plans or have changed their minds (the "consideration" group); and 30 dog guide users. This grouping may be viewed as a progression from negative to most positive action by the respondents with respect to dog guides.

As before, "coverage" signifies the amount of exposure to discussion about dog guides (as measured by the percentage of respondents who report such discussion). "Favorableness" is measured by the percentage of respondents who report that particular kinds of discussants were favorable toward dog guides in discussion with the respondent. The classes of discussants, also referred to as sources of information or comment, include family members, dog guide users, other blind persons who do not use dog guides, sighted friends, work associates, employers and workers in social agencies providing services to blind persons.

The relationships among these three factors (discussion with other persons, type of discussant and type of respondent with respect to amount of consideration of dog guides) is to be examined from the point of the respondent as the subject of personal influence.

The first general finding is that there is a consistent relationship between the amount of discussion held with other persons and the degree of consideration given to dog guides. Thus respondents who have never considered a dog guide report the lowest exposure to discussion about dog guides. Respondents who have given consideration to dog guides are in the middle position as far as exposure to discussion is concerned. Finally, dog guide users, who have acted upon their consideration of dog guides, report most exposure to discussion. Moreover, the relationship between amount of discussion and "amount" of consideration holds up for each and every type of discussant.

The picture is much the same as far as the tenor of discussion is concerned. The "no consideration" group reports, the smallest percentage of favorable discussion concerning dog guides, the "consideration" group reports a somewhat higher percentage of favorable discussion, while the dog users report the highest percentage of favorable discussion. This general trend holds true for most types of discussants; for discussion with family members, dog guide users, works associates and workers in social agencies. There are some slight inconsistencies in the trend of association as far as other blind persons, sighted friends and employers are concerned.

The findings can be given in another way, adding some additional detail. The "non-consideration" group report the least exposure and the smallest percentage of favorable discussion. They also report that the principal source of exposure to discussion is with other blind persons (non-dog guide users). The pertinence of this finding may be seen when it is recalled that other blind persons are least favorable to dog guides.

The "consideration" group report more coverage, and more favorable impact. Their principal source of exposure is with family members. It will be recalled that family members are intermediate as to their favorableness concerning dog guides.

Finally, dog guide users report the highest amount of coverage, and the largest percentage of favorable impact. Their main source of exposure to discussion is from other dog guide users, who are most favorable to dog guides of all types of discussants.

TABLE 6.13 COVERAGE AND FAVORABLENESS INDICES OF DISCUSSION WITH CATEGORIES OF PERSONS, IN RELATION TO CONSIDERATION OF DOG GUIDES (RESPONDENTS WITH VISUAL ACUITY OF 5/200 OR LESS)

	Respondents who have Never Considered a Dog Guide		*Respondents who have Considered a Dog Guide*		*Respondent Dog Guide Users*	
Persons with whom Discussed	*Coverage Index**	*Favorableness Index***	*Coverage Index*	*Favorableness Index*	*Coverage Index*	*Favorableness Index*
Family	18.6%	54.5%	64.1%	68.1%	80.0%	95.8%
Dog Guide Users	23.7	90.5	50.5	100.0	90.0	100.0
Other Blind	30.0	50.0	44.7	67.4	83.3	60.0
Sighted Friends	25.4	66.7	44.7	57.0	83.3	96.0
Work Associates	5.6	40.0	16.5	70.6	60.0	83.3
Employers	1.7	100.0	7.8	62.5	53.3	93.8
Workers with Blind	15.3	55.5	29.1	66.7	50.0	66.7
(Number of Cases)	(177)		(103)		(30)	

---

*Percentage of persons who report discussing use of dog guide with designated persons.

**Percentage of respondents who report favorable attitudes toward dog guides on the part of those with whom they discussed use of dog guides.

The Amount of Discussion and the Consideration of Dog Guides. In the previous sub-section, the analysis emphasized separate classes of discussants in order to compare their contributions to discussions about dog guides. In this sub-section, the focus of attention is upon the amount of discussion about dog guides, rather than the specific sources of such discussion.

It may be reasonably presumed that the application for dog guide training represents the final step in a process of deliberation about travel in general, discussions with others concerning dog guides, and consideration of obtaining a dog guide. It might also be presumed that these three activities would not take place in a single sequence, but that each would tend to reinforce the others.

It should be kept in mind that a minority of blind persons is being considered. As the last chapter has indicated, most blind persons give little or no thought to the choice of a mode of travel. Similarly, nearly two-thirds have little or no discussion with others concerning dog guides or have never considered obtaining a dog guide. The discussion below applies to the most pertinent group, those with visual acuity of 5/200 or less, for whom good travel performance requires thought, decision and training in one mode or another.

Nevertheless, the interrelationships of thought about mode of travel, discussions with others concerning dog guides and consideration of obtaining a dog guide bear examination even for the minority involved. The examination may provide clues for stimulating the less active majority.

There is a strong positive relation between the amount of discussion about dog guide use and the amount of thought given to choice of a mode of travel. Thus, those with little discussion of dog guides include 17% who have given a great deal of thought to travel decisions; those with some discussion include 31%, while those with a good deal of discussion about dog guides include 49% who have given a great deal of thought to the choice of a travel mode. (Table 6.14) The direction of association cannot be unequivocally determined. That is, it is difficult to determine whether discussion of dog guides leads to more thought about travel decisions or thought about travel decisions leads to more discussion about dog guides. It is probable, in the light of the general literature on communications and of the data earlier presented, that there is a reciprocal relationship. Raising the level of interest and concern with travel is a desirable objective from the viewpoint of rehabilitation in general. Therefore, discussion of dog guides, even though it may not lead to active interest in dog guides, is valuable; for it may influence some blind persons to give more thought to travel decisions. The discussion of dog guides with many persons is clearly associated with the process of deliberation and consideration of travel requirements. Certainly, any means to change the all too general apathy about travel which characterizes so many blind persons can be supported.

The amount of discussion about dog guides is also clearly related to the degree of active consideration of dog guides as a mode of travel. Thus, those who have never considered a dog guide include 10% who have had a good deal of discussion with others about dog guides. Those who have given consideration include 26% with a good deal of discussion. Finally, dog guide users, who have acted positively after consideration of dog guides, report 83% who have had a good deal of discussion. (Table 6.15)

Reference has been made previously to the effect that a good deal of the discussion about dog guides provided by other persons is negative, or may contain misinformation about admission policies and procedures of dog guide schools. An index of misinformation was constructed from the responses of interviewees to a series of items about the Seeing Eye training center. On this basis, respondents were classified into low, medium and high misinformation categories. (See Appendix for details of the index.)

The interesting finding is that the greater the spread of discussion reported concerning dog guides, the less the amount of misinformation. Thus, those who have had little or no discussion have 70% in the "high misinformation" category; those with some discussion have 46%; while those who report a good deal of discussion have 23% in the "high misinformation" category. The inverse relation of amount of discussion and amount of misinformation points up in another way the desirability of increasing the face to face discussions about dog guides. (Table 6.16)

TABLE 6.14 AMOUNT OF THOUGHT GIVEN TO CHOICE OF TRAVEL MODE IN RELATION TO DISCUSSION OF DOG GUIDE USE*

(for those with visual acuity of 5/200 or less)

	AMOUNT OF THOUGHT GIVEN TO CHOICE OF MODE					
Amount of Discussion	*Little or None*	*Some*	*Great Deal*	*No Information*	*Percent*	*(No. of Cases)*
Little	58.6%	12.1%	17.2%	12.1%	100.0%	(157)
Some	46.8	14.6	31.3	7.3	100.0	(96)
Good Deal	28.0	20.0	49.3	2.7	100.0	(75)
						(328)

*Tables 6.14 through 6.16 have been tested for significance by chi square and are significant at least at .05 level.

TABLE 6.15 DISCUSSION OF USE OF DOG GUIDE IN RELATION TO CONSIDERATION OF DOG GUIDES

(for those who are 5/200 visual acuity or less)

Amount of Discussion	*Has Never Considered Dog Guide*	*Has Considered Dog Guide*	*Dog Guide Users*	*No Information*
Little or None	66.1%	30.1%	6.7%	38.9%
Some	24.3	43.7	10.0	27.8
Good Deal	9.6	26.2	83.3	33.3
Total	100.0%	100.0%	100.0%	100.0%
(Number of Cases)	(177)	(103)	(30)	(18)

TABLE 6.16 AMOUNT OF DISCUSSION OF DOG GUIDE USE IN RELATION TO EXTENT OF MISINFORMATION ABOUT DOG GUIDES

Amount of Discussion	EXTENT OF MISINFORMATION *Low*	*Medium*	*High*	*Percent*	*(No. of Cases)*
Little or None	17.3%	13.0%	69.7%	100.0%	(284)
Some	21.6	32.0	46.4	100.0	(125)
Good Deal	41.1	35.6	23.3	100.0	(90)
No Information	—	—	—	—	(1)
					(500)

Summary. This section has explored the role of discussions about dog guides with persons in the environment of blind persons, as reported by our respondents.

Dog guide users are key influencers, because of the amount of coverage they provide (that is, the percentage of blind persons they reach) and the favorableness of their discussion. The content of their discussion emphasizes the contribution to mobility and independence which dog guides provide. However, there is need for other kinds of information to correct the considerable amount of misinformation which exists as to fee and admission policies and procedures of dog guide schools, and lack of information as to the kinds of every day problems which come up in the care and maintenance of dog guides, such as feeding, discipline and medical care. Dog guide users are positive about dog guides and usually maintain a continuing relationship with the centers in which they were trained. They are thus accessible both to dog guide training centers and to non-dog guide users among blind persons.

Other blind persons (non-dog guide users), family members and sighted persons are next in the order of the amount of coverage they provide as to discussion of dog guides. Agency persons, frequently cited for the importance of their referral activity in the decision process as to mode of travel, are cited less often as discussants of dog guides. Work associates and employers are reported least often. Family members, other blind persons and agency workers are the source of a good deal of negative impact. Sighted friends are more likely to be positive. It is difficult, but important, to reach and if possible to broaden the perspectives toward dog guides of blind persons and social agency workers. The mass media which reaches them needs to be identified, and certain kinds of information needs to be communicated. Practical information on referral procedures, admission policies and requirements, daily care and maintenance of dog guides, is needed. Material concerning the contribution to mobility and independence which dog guides can provide to qualified blind persons is of special import for agency workers.

The importance of informal influences is demonstrated by the fact that they are shown to be associated with the positive consideration of dog guides. Contact with those favorably disposed to dog guides is related to more positive consideration of dog guides. Moreover, the sheer amount and spread of discussion, irrespective of its source, leads to more thought given to the decision on a travel mode, more consideration of dog guides, and lessened misinformation about dog guide training and care. The general implication to be drawn that raising the level of concern for travel among blind persons will increase the extent to which consideration is given to dog guides, and that increased discussion of dog guides will tend to increase the amount of thought given to alternative modes of travel in general.

6.5 Mass Media and the Consideration of Dog Guides

Introduction. Over the years, a good deal of information about dog guide training and use has been transmitted through books, periodicals, radio and television. Such media, reaching the sighted population, are probably responsible for the finding in the previous section that sighted friends of blind persons tend to discuss dog guides in favorable terms. However, blind persons are more important both as potential users of dog guides and as influencers of other blind persons. As has been indicated, the attitudes toward dog guides among blind persons are considerably less favorable than those of sighted persons. It becomes of interest to survey what mass media are recalled as including information about dog guides. The relationship of exposure to different kinds of media to the consideration of dog guides may also be analyzed. Similarly, the *impact* of such media (whether the respondent remembers being influenced favorably) may be analyzed in relation to the consideration of dog guides.

The sub-sections below present data on these subjects, based on the interview responses of the sample of blind persons. During the interview, respondents were asked merely which media they remembered as having included information about dog guides, and whether such information influenced them favorably or not. Thus the data do not include *all* the material ever read or listened to, but only that which was recalled. It would have been possible to list all the possible sources of information and ask respondents about them. However, the technique of unaided recall was chosen not only because of its simplicity, but because the answers reflect the material most salient to the respondents.

Comparative Recall of Mass Media. Reading about dog guides is recalled by about one in five respondents, as compared with almost half who have heard about dog guides through radio or television programs. In this context, the reading of books, magazines, or other literature includes direct reading by respondents who can read print or braille, listening to a sighted reader, or listening to "talking books" (printed material which has been placed on phonograph records).

The 21% who have recalled reading about dog guides are most likely to have done so in magazines or periodicals (39%) rather than in books (24%). It is of distinct interest that no respondent recalls material about dog guides in any braille magazine or book.

Twenty-two percent of those who have read material recall Hector Chevigny's book "My Eyes Have a Cold Nose;" the same percentage recall the "Reader's Digest;" but not the specific article or author. Some seven percent recall Morris Frank's "First Lady of the Seeing Eye" in book form and about the same proportion recall the condensed version in "Reader's Digest."

Radio and television are, as has been indicated, much more frequently recalled than reading material. Ninety percent of this recall does not specify any particular program; the remaining ten percent includes Seeing Eye staff radio talks. (Table 6.17)

Exposure to Mass Media and Consideration of Dog Guides. In this discussion, respondents are categorized as to whether they had *never* considered obtaining a dog guide, whether they had *ever* given consideration to obtaining a dog guide, or whether they were dog guide users.

Somewhat more than half the "non-considerers" recall no media experience, two-fifths recall radio or television exposure, and one-fifth recall reading magazines or books. The "considerer" group have somewhat higher exposure. A third recall no media exposure; some 54% recall radio or TV exposure, and some 26% recall reading material about dog guides. Dog users have most exposure, and a different pattern of exposure. Only 17% recall no exposure, three-fifths recall radio or television programs about dog guides, and over four-fifths recall reading magazines or books about dog guides. Thus dog guide users are the only group where recall of reading is greater (by a fifth) than that of radio or television. This may be contrasted with non-dog guide users, who recall radio and television twice as frequently as reading. In general, then, frequency of recall of exposure to any type of communication about dog guides is associated with consideration of dog guide use. Recall of *reading* is associated with actual use of dog guides. (Table 6.18)

The explanation may lie in a number of directions. On the one hand, the exposure may be fairly similar among all groups of respondents, but the degree of interest in dog guides creates a differential rate of recall. Alternatively, the degree of interest in dog guides may lead to different rates of reading or listening to material about dog guides. To some extent, it may be true that different rates of exposure may lead in part to different degrees of consideration of dog guide use. Probably, each of these explanations has some validity. It seems reasonable to infer that the higher interest and motivation of dog guide users is involved in the higher recall of reading material. Such exposure involves more effort than listening to radio or television.

Impact of Mass Media and Consideration of Dog Guides. An index of impact of media was constructed by computing the percentage of respondents who recalled becoming more favorable as a result of exposure. This impact index was tabulated for each media form, and for "non-considerers" of dog guides, "considerers" and dog guide users. Consistently, the impact of radio and television is less than that of reading, for all groups of respondents. Thus 18% of "non-considerers" report favorable impact for radio and television, while 27% do so for reading. Some 34% of "considerers" report favorable impact for radio and television, while about 56% do so for reading. Dog guide users report 11% impact for radio and television, 32% for reading. (Table 6.19)

It may be seen too that the impact upon those who have considered dog guides is greater than those who have not, whether radio and television or reading is considered. Dog guide users report less impact for radio and television, than non-users. This is probably an artificial finding, at least in part, because dog guide users, being already most favorable to dog guides, cannot easily become more so. The impact of reading upon dog guide users is more than that upon those who have never considered dog guides, but less than those who have given consideration to obtaining a dog guide for themselves at one time or another.

Summary. Generally, radio and television material about dog guides is recalled by a larger proportion of respondents than reading. However, dog guide users recall more reading exposure than listening to radio or television. Reading material may be reasonably inferred as making a more significant impression. In the first place, the specific source of reading (title, author, etc.) is much more often recalled than is the case with radio or television, whereas specific programs are much less frequently recalled. In the second place, the favorable impact of reading material is reported by respondents to be higher than that of radio or television. The importance of mass media may be seen in their general association with the degree of consideration given to the use of dog guides.

Personal influences, however, are more widespread than media influences. There is greater exposure to personal discussion than to reading, radio or television.

TABLE 6.17 PERCENTAGE OF RESPONDENTS WHO RECALL PRINTED, RADIO OR TELEVISION MATERIAL ABOUT DOG GUIDES

Reading, Unidentified Sources	*Percent of Those Who Read**	
Magazines	38.7%	
Books (printed or talking)	23.6	
Braille periodicals or books	0.0	
Newspapers	0.0	
Reading, Identified Sources		
"My Eyes Have a Cold Nose", H. Chevigny		
Book Form	21.7	
In Reader's Digest	0.0	
Reader's Digest (specific mention other than Chevigny or Morris Frank)	21.7	
"First Lady of Seeing Eye", Morris Frank		
Book Form	6.6	
In Reader's Digest	7.5	
TOTAL ALL READING		21.2 (106 cases)
Radio and Television		
General Radio or TV mention	90.4	
Seeing Eye Staff Radio Talks	9.6	
TOTAL RADIO AND TELEVISION		47.8 (239 cases)

---

*Percentages total to more than 100%, since respondents may report more than one category.

TABLE 6.18 CONSIDERATION OF DOG GUIDES IN RELATION TO EXPOSURE TO MASS MEDIA ABOUT DOG GUIDES

(for those with visual acuity of 5/200 or less)

	MEDIA CLASSIFICATION			
Dog Guide Consideration	*Magazines and Books*	*Radio and TV*	*Reports No Media Experience*	*(Number of Cases)*
Has Never Considered	20.9%*	41.2%	52.9%	(177)
Has Considered	26.2	54.3	33.0	(103)
Dog Guide Users	83.3	60.0	16.6	(30)
				(328)

Differences tested by chi square significant at least at .05 level.

---

*Percentages total more than 100% because some respondents reported more than one exposure.

TABLE 6.19 CONSIDERATION OF DOG GUIDES IN RELATION TO COMPARATIVE IMPACT OF READING, AND RADIO-TELEVISION

(for those with visual acuity of 5/200 or less)

Dog Guide Consideration	*Impact Index Reading*	*Impact Index Radio-TV*	*(Number of Cases)*
Has Never Considered	27.0%*	17.8%	(177)
Has Considered	55.6	33.9	(103)
Dog Guide Users	32.0	11.1	(30)
			(328)

Differences tested by chi square significant at least at .05 level.

---

*Percentages total more than 100% because some respondents reported more than one exposure.

CHAPTER VII

THE CONCLUSIONS OF THE STUDY

7.1 Introduction

This study has addressed itself to questions pertinent to the use of dog guides by blind persons, and aspects of their general travel adjustment. The findings which have been presented are derived mainly from interviews with 500 legally blind persons, age 15 to 54, living in New York State and not institutionalized.

The source list for this sample was a comprehensive register of blind persons maintained by the New York State Commission for the Blind. A random selection of one out of six such persons was drawn from New York City lists, totaling 304. The remaining 296 names were drawn at random from eight New York State counties selected to match all other counties on general characteristics, and on characteristics of the blind populations. (See Chapter II, and Appendix A for elaboration of the sampling plan.)

Interviews were conducted by graduate social workers of long experience, mainly in the homes of the blind respondents. The interviews, averaging an hour and thirty-five minutes in length, were based on a schedule which included about 600 items of various types. The interview content included in part: mode of travel, travel performance, decision process in selection of travel mode, sources of information about and attitudes toward dog guides, travel training, social adjustment, health, vision, employment, intelligence, and personality indices. A series of interview ratings were appended to the completed schedules, covering evaluations of neighborhood level, personality functioning, intelligence and interview behavior. Editing and coding procedures were checked by reliability tests.

In this chapter, highlights of the conclusions will be presented. Elaboration of the analysis may be reviewed in the pertinent sections of preceding chapters. The final chapter will draw implications of the findings useful as directions for the field of service to blind persons.

7.2 Potential Demand and Resources for Dog Guide Training

To estimate the demand for potential dog guide training, criteria for successful dog guide use were ascertained through a variety of procedures including study of requirements for admission to dog guide schools, first-hand observation of a complete training cycle at a dog guide school and statistical comparison of characteristics of more and less successful candidates for dog guide training. As finally evolved, criteria for successful dog guide use were grouped under four main headings; *capacity* for dog guide use; *need* for dog guide; *situational factors* relevant to dog guide use; and *motivation* for dog guide use. Within each of these headings, specific factors were defined which were negative for dog guide training. By suitable combinations of these factors, respondents were finally sorted out into five groups, termed reservoirs for dog guide training.

The Non-Reservoir Group is made up of individuals who are clearly ineligible for dog guide training because of lack of physical or intellectual capacity. Those who are already dog guide users form a special part of the Non-Reservoir Group. They have all the requisites, of course, but must perforce be excluded from any estimate of potential demand.

The Primary Reservoir Group consists of those who meet all the capacity, need, motivational and situational requirements. These were further divided into those who had fairly immediate plans for seeking dog guide training, and those whose plans were indefinite or long range.

The three remaining groups were neither clearly excluded from dog guide training nor unconditionally ready for it. There were emotional, situational or motivational limitations, although basic capacity and need for dog guides were present.

The reservoir groups are also differentiated by the degree and type of action at either the individual or community level which would be required to make them fully eligible or motivated for dog guide training. At one extreme, *no* amount of action could create readiness for training in the Non-Reservoir Group. At the other extreme, little or no action is required for those in the Primary Reservoir Group.

In order to capitalize on the Unmotivated Reservoir, community education is required to encourage a desire for improved travel performance, or to combat misinformation or negative attitudes to dog guides. The full utilization of the potential in the Situational Difficulties Reservoir requires additional action at an individual level to alleviate individual situational difficulties. Finally, utilization of the potential in the Emotional Difficulties Reservoir entails intensive individual treatment of a psychiatric, casework or counselling nature, directed specifically at those with general emotional difficulties or dog phobias. Such action would not appear to fall within the scope of dog guide school functions but would be the responsibility of other community agencies.

On the basis of the numbers and percentages in the various reservoir groups in the sample, estimates were projected to the relevant national population of blind persons. It was thus estimated that the national Primary Reservoir Group consists of 3,270 individuals, of whom approximately 425 might be expected to apply for dog guides within the period of a year, the remainder over several years. Because the Primary Reservoir Group already contains an accumulation of potential dog guide users, the rate of replenishment of this group may be somewhat slower than 425 per year.

The Unmotivated, Situational Difficulties and Emotional Difficulties Reservoir Groups include an estimated 3,400, 3,500 and 1,400 individuals respectively.

Percentage wise, the Primary Reservoir represents approximately one percent of the total estimated population of blind persons in the United States in 1957. This low proportion is explained partly by the large number of blind persons who are outside the suitable age range for dog guide training, or who though legally blind have sufficient vision to travel without aid.

When the estimated size of the immediately available portion of the Primary Reservoir is compared with the findings as to the capacity for dog guide training in all dog guide schools in 1956, it appears that demand and resources are in balance. That is, the conclusion is reached that the training capacity is adequate, without expansion, to meet the current estimated qualified demand for training in the use of dog guides. It is noted, however, that *quantitative* adequacy of dog guide training sources is being discussed. The *qualitative* adequacy of such services may remain in question for at least some dog guide training schools.

7.3 Background Characteristics of Reservoir Groups

The Reservoir groups and Dog Guide Users were found to be differentiated on a number of background characteristics. Dog Guide Users are highest with respect to social class level, amount of education, and employment status. There are unsystematic or slight differences with respect to age, sex distribution or geographic location.

The Primary Reservoir Group resembles the Dog Guide Users most closely with respect to social class level (somewhat higher than other groups), educational level (somewhat more education than other groups), employment status (somewhat greater proportion employed and somewhat lesser proportion without work plans, or mendicants). There is a similarity as to age distribution (slightly more concentration in the middle of the range).

The Non-Reservoir Group and the Subsidiary Reservoirs are broadly similar in having lowest social class status, least amount of education, least proportions employed and wider age spread. (See Chapter IV for elaboration.)

7.4 Aspects of the Travel Adjustment of Blind Persons

Travel Performance and Visual Perception. The sample is made up of 38% who report that they are totally blind or have light perception only, and 62% who report a higher level of visual perception.

Just over two-fifths of the sample report that most of their travel is carried on without aids. All but 7% of these are in the high vision group. The next largest group, just under a third, report that most of their travel is carried on with the use of a human guide. Somewhat more than half (55%) of these are in the low vision group. Cane users make up slightly under a fifth of the sample. This is a lower vision group than human guide users, having 62% who are totally blind or have light perception only. The smallest group in the sample are dog guide users, making up 6%. This is the group with lowest visual status, having 80% in the low vision group.

About three-fourths of the entire sample are characterized by travel which is considerably constricted as to frequency, and independence. Somewhat less than half are considerably restricted in the extensiveness of travel. On a combined measure of all travel aspects, termed travel efficiency, three-fourths fall in the category of restricted travel.

While those in the higher vision groups generally score higher on these measures, three-fourths of these groups do not achieve considerable frequency, about two-fifths do not achieve considerable extensiveness, and somewhat under two-thirds do not achieve considerable independence. On the over-all measure of travel efficiency, two-thirds do not reach scores indicative of fairly unrestricted travel.

Travel Performance and Mode of Travel. Human guide users have minimal travel performances both absolutely and relative to those who use other modes. Cane travellers are markedly above human guide users in all aspects of travel performance, whatever category of vision is considered. Dog guide users are significantly above cane users on all travel aspects with the exception that the rating of travel independence among low vision groups is similar for dog guide users and cane users.

Unaided travellers cannot be compared directly with dog guide users because of the extreme differences in visual make-up. However, high vision unaided travellers are significantly above cane users and human guide users in travel performance. It is quite probable that the unaided travellers are at the upper end of the high visual perception category.

Visual perception does not differentiate consistently as to travel performance within each travel mode. Travel mode differences seem more important than visual status in affecting the level of travel performance.

The Concern with Travel. As the previous paragraphs have indicated, the potential for fully satisfactory travel performance is not reached by most blind persons. Morever, there is a general trend of dissatisfaction with travel performance. Only one in five persons reports high satisfaction with his travel efficiency.

However, this generalized dissatisfaction is not translated into more purposeful planning or action to improve travel adjustment. Two out of three respondents give little or no indication of motivation for improvement of travel. About one in four indicate strong motivation for improvement, the remainder following between the extremes of motivation.

The proportions are broadly similar when the amount of thought given to the choice of travel mode is analyzed. About two in three gave little or no thought to the choice of a travel mode, about one in four gave serious consideration to this decision.

The total picture is one in which a majority of blind persons demonstrate a passive resignation to a situation of unsatisfactory travel function. It is believed that this picture is best understood in the light of the interplay between family and community attitudes on the one hand, and the effect of these upon the motivations of blind persons on the others. Blind persons with good travel function, or active desire to improve function do exist, but form a minority of the sample studied, by their own reports.

The Decision Process in the Choice of Mode of Travel. In line with the widespread apathy toward improvement of travel function, the process through which a decision is made as to a choice of travel mode is correspondingly vague and indeterminate. For the most part, the choice "just happened".

Analysis of approximately one-fourth of the respondents, who could recall influences and reasons for the choice of mode of travel indicated that the discussions and recommendations of other persons were most often recalled. Dissatisfaction with a previous level of travel adjustment, or attraction to presumed advantages of a new mode of travel accounted for the next most prominent factors involved in choice of mode. Deterioration of vision, situational changes (shift in residence or job, for example) were next in importance. A very few reported changes in health status requiring a changed mode of travel.

Less than a third of the respondents had ever undertaken any training at all in the use of their primary mode of travel. This was not true of dog guide users, all of whom had had training. Persons who had had training of any duration or quality were much more likely to have given a great deal of thought to their decision. Dog guide users were even more likely to have given a great deal of thought to their travel mode. Thus the general trend of lack of deliberation over choice of travel mode was deviated from by nearly half of those who had any form of travel training and by two-thirds of those who had been trained in the use of dog guides.

There are differences in the types of reasons reported for choices of different travel modes. Those trained in the use of dog guides, and to a lesser extent cane travellers, are distinguished from human guide and unaided travellers. The push of dissatisfaction with the old mode of travel and the pull of more advantageous modes of travel are more often reported. Similarly, environmental pressures requiring adjustment are associated with the use of dog guides and to a lesser extent also among cane travellers. Personal influences are particularly important to these two groups, in contradistinction to those who travel with human guides or without aids. Human guide travellers, if they give reasons at all, tend to give unspecific and passive ones.

Sources and Types of Personal Influence. Most often, family members are cited as sources of personal influence (over a third), followed in frequency by agency personnel (under a third), blind friends (about a seventh), sighted friends (under a tenth) and miscellaneous others.

The most frequent type of personal influence is reported to be that termed "specific referrals" in which specific information or arrangements for travel training are discussed. This type of influence is provided by all groups, especially agency personnel, and surprisingly, family members. The next most frequently cited type of personal influence is that of "general encouragement", which includes advice and support toward better adjustment in general, and travel function in particular. All groups are mentioned in this connection. The third type of personal influence is almost uniquely provided by blind friends of the respondents. These serve as "role models", who, by their example of adequate adjustment and travel performance, provide a different kind of influence.

7.5 The Consideration of Dog Guides

Attitudes Concerning Dog Guides. Broadly speaking, the dog guide mode of travel is preferred by most blind persons in an abstract choice situation. Asked to select the method preferred as "best" for a person able to learn each, nearly 40% choose dog guide, nearly 28% unaided travel, and nearly 23% cane travel.[1] The differential is even more marked when opinions are asked as to relative safety; for two-thirds choose dog guide, while 16% choose cane. When freedom from "nervous strain" is considered, 57% select dog guide over cane (19%) and unaided travel (9%).

Respondents' opinions about images of dog guides held by others are mostly positive, but there is a substantial minority report of negative images estimated for the general public, for family and friends. Nearly half report positive public images in varying degrees, with a lesser proportion estimating negative public images. Some three-fifths report family and friends as accepting, some 40% report varying degrees of rejection.

Situational impediments are reported to affect slightly over half the respondents. For example, some respondents believe that the home or job situation will not permit a dog guide, or that they are unable to spare the time for training (actually a month in most cases).

Reasons Reported for Not Obtaining Dog Guide Training. Those who gave evidence of considering a dog guide but were postponing decision (about 7%) tended to emphasize situational impediments. A third of this group either lacked information about application procedures or were misinformed about some aspect of application. Some believed it was necessary to save a large sum of money for dog guide training (a belief which is not in accordance with the actual situation).

A much larger number (about 13%) had once considered dog guides but had decided against them. Situational impediments were most prominent; next in importance were physical difficulties. More than a third cited some type of misinformation about dog guide training or use. A smaller group were concerned about the difficulties in the control of dog guides.

---

[1] The options for mode of travel were restricted to the "independent" modes of travel. Thus, human guide travel was not given as a possible choice.

The major group of 65% had never considered a dog guide, mainly because they considered their present mode of travel adequate for present needs. To a considerable extent, this reflected the point of view of those who had sufficient vision, even though legally blind, to travel without aids. However, others with low vision gave this reason because they had limited goals for independent travel. Other reasons are given in lesser proportion.

Personal Influences and the Consideration of Dog Guides. Although dog guide users are relatively few, they exercise key influences because of the large proportion of blind persons whom they reach, and the favorableness of their discussion. In talking with blind persons, they are reported by the respondents to emphasize the contribution to mobility and independence which dog guides provide.

Other blind persons (non-dog guide users), family members and sighted persons are next in order of mention as sources of discussion of dog guides, followed by agency workers, work associates and employers. Other blind persons, family members and agency workers were the source of a good deal of negative impact so far as dog guide consideration is concerned.

Yet, the more discussion about dog guides takes place with others, the greater the possibility of positive consideration. The sheer lack of discussion presents a greater bar to consideration of dog guide training than discussion which has some negative elements. The greater the amount and spread of discussion about dog guides, the greater the amount of thought reported to be given to the choice of travel mode, no matter what the eventual decision is. Moreover, the greater the amount of discussion with others, the less misinformation there is, even though to some extent such misinformation may be the result of a limited amount of discussion.

Mass Media and the Consideration of Dog Guides. As with travel training of any kind, and discussions with others concerning dog guides, the greater the reported exposure to mass media about dog guides, the greater the amount of thought given to the choice of travel mode. Such consideration is an important aspect of the concern for travel adjustment.

Radio and television are recalled as providing more exposure than reading material. For blind persons, reading signifies the use of a sighted reader, or listening to phonographically recorded literature. Braille represents another possible source of reading material, but no respondent recalled reading about dog guides in any braille publication.

The exposure picture is different for dog guide users. Uniquely, the greater proportion recall exposure to literature of various kinds, rather than radio or television programs.

The favorable impact of reading is reported more often than that of radio or television, even though these media reach more blind persons (with the exception of the small group of dog guide users). Moreover, specific details such as author and publication are reported more frequently than analogous details about radio and television programs.

As compared with personal discussions, the formal mass media provide less exposure to discussion about dog guides.

7.6 Characteristics of Dog Guide Users

In a number of ways, the small group of dog guide users in the sample (30 of the 500) appear to differ from other blind persons, though such differences are relative rather than absolute. These differences are to be brought together in the succeeding paragraphs.

It is not possible to reach a conclusion as to whether these differences represent the *result* of dog guide use, whether they represent *preconditions for dog guide use* (so that dog guide use is a result of the differences), or whether they are the result of selective policies of dog guide schools. It may well be that all three explanations are involved.

Certain physical factors differentiate dog guide users from other blind persons in our sample.

Visual acuity less . . . Percent with vision over 5/200:
Dog users — None; Non-Users — 56%

Hearing better . . . Percent with moderate or substantial difficulty:
Dog users — 7%; Non-users — 14%

Health better . . . Percent with only fair or poor health:
Dog users — 3%; Non-users — 21%

These differences are probably a consequence of admission policies of dog guide schools evolved through experience.

Certain differences in background characteristics appear.

Educational Level higher . . . Percent Grade School only:
Dog users — 13%; Non-users — 39%

Social Class Level higher . . . Percent Lower Middle and Middle:
Dog users — 13%; Non-users — 39%

Employment Status higher[2] . . . Percent Employed:
Dog users — 63.3%; Non-users — 37.2%

These differences are only partly a consequence of the selective policies of dog guide schools, which do not have educational or social class criteria for admission, though a plan for a useful life role (e.g. worker, housewife, etc.) is emphasized by the largest and best known dog guide school. To some extent, dog guides may have a special appeal for this group, and to some extent dog guides may make a contribution to their social and economic adjustment.

Differences are found with respect to intelligence and emotional stability.[3]

---

[2] *War Blinded Veterans, etc.* op cit. p. 31. "Not quite half the dog guide users were employed, which was a greater frequency of employment than was found among other veterans without useful sight on a survey-wide basis (41.9%)." See also:
Corbett, Helen and Keld, Joyce, "A Comparison of Adjustment in Blind Dog Users and Non-Users" May 1957: Master's Thesis, New York School of Social Work, Columbia University, Mimeographed; p. 74: "A much higher percentage of the dog user group was employed full-time (than the non-dog user group) and this difference was still in evidence after the age differences between the two groups had been eliminated by cross-tabulating present employment status with age." (This finding refers to 25 dog guide users and 100 non-users in a vacation camp for blind persons.)

[3] Bauman, Mary K., op. cit. p. 107. "Those who use dog guides differ significantly from both (cane users, and those who use neither cane nor dog) in Attitudes re Blindness, Social Competency and Feeling of Inadequacy, with those using the dog guide having the more favorable scores in all instances." Bauman goes on to indicate that these favorable differences may be a precondition for dog guide use and not necessarily a result.
War Blinded Veterans, etc. op. cit. p. 121—makes only two comparisons of interest in this connection. Neither of these shows any difference between dog guide users or cane users as to "appearance of ability to cope with community attitudes" and "interviewer's estimate of positive attitude to life." Two factors should be kept in mind in interpreting this finding. One is that the "non-users" are all veterans who have received intensive services and systematic training in the use of a cane. They differ from the more heterogeneous group of "non-users" in our sample. The second is that the dog guide users in the VA study are practically all (98.6%) without useful sight, while the cane users have only 39.5% without useful sight. Conceivably, if visual acuity were held constant, differences might appear.

Intelligence higher . . . Percent scoring high or high moderate on intelligence items in interview:

Dog users — 72%; Non-users — 40%

Emotional stability higher . . . Percent rated by interviewers as showing moderate or high indications of emotional instability:

Dog users — 0%; Non-users — 13%

These differences are probably not a direct consequence of the selective policies of dog guide schools. They may, however, characterize persons who are drawn to dog guide training, or in part be a consequence of such training.

Items related to travel performances and attitudes show differences.

Travel Frequency greater[4] . . . Percent scoring High Frequency:

Dog users — 50%; Non-users — 21%

Travel Extensiveness greater . . . Percent scoring High Extensiveness:

Dog users — 70%; Non-users — 55%

Independence of Travel greater[5] . . . Percent scoring High Independence:

Dog users — 43%; Non-users — 30%

General Travel Efficiency greater . . . Percent scoring High Efficiency:

Dog users — 40%; Non-users — 22%

Amount of Travel Training greater . . . Percent with travel training:

Dog users — 100%; Non-users — 33%

---

[4] Bauman, op. cit. p. 185. If the data of Table 52 are used to compare dog users and non-users with visual acuity below 5/200, the following results appear:
Homebound Dog Users—1%; Non-Users—36%
Travel in Familiar Areas Only Dog Users—29%; Non-Users—26%
Unrestricted Travel Dog Users—70%; Non-Users—38%
These differences are not equated for age, so that they favor dog users, who are younger. However, the sample consists of agency users. Dog users probably use agencies less, so that the users in the Bauman sample probably have more problems than dog users in general. This circumstance would tend to balance the age bias to some degree.

[5] Ibid, p. 111. "The difference between the percentage of the dog guide users who like to travel unassisted (90%) and the percentage of the total cane users who like to travel unassisted (61%)." This confirmation of the greater travel independence of dog guide users is more striking, considering that the amount of vision of dog guide users is much less than other groups.

The process by which a decision is made as to a choice of travel mode differs in some respects for those trained in dog guide use as compared with those trained in cane travel.

Amount of Thought Given to Choice of Travel Mode greater . . . Percent who gave a great deal of thought to choice:

Dog guide trained 63%; Cane trained 41%; Untrained 14%

Emphasis on Environmental Demands as Reason for Choice of Travel Mode greater . . . Percent citing external changes as requiring more effective travel mode:

Dog guide trained 35%; Cane trained 17%

Emphasis on Dissatisfaction with Previous Mode of Travel greater . . . Percent citing dissatisfaction with prior travel mode as requiring more effective mode:

Dog guide trained 46%; Cane trained 30%

The impression given by these differences is that the choice of the dog guide mode of travel is a more active one, stimulated by environmental requirements for more effective travel and dissatisfaction with current travel performance.

Some final differences appear with respect to communications about dog guides.

Source of Discussion about Dog Guides greater . . . Percentage of respondents reporting sources of information about dog guides:

Dog users — 38%; Non-users — 32%

Though this difference appears smaller than some of the others, it is quite striking. Although there are very few dog guide users, they are reported as sources of discussion by a larger portion of the respondents than are other blind persons.[6]

Exposure to Literature about Dog Guides greater . . . Percentage of respondents with visual acuity of 5/200 or less who report reading about dog guides:

Dog users — 83%; Non-users — 23%

---

[6] Moreover, the tenor of discussion is almost universally favorable, whereas other blind persons frequently are sources of negative information. The "War Blinded Veteran" study cited previously has an interesting finding in this respect (page 43). Of 143 dog guide users, 141 are reported satisfied with their mode of travel.

Moreover, for dog users, reading is the primary source of exposure about dog guides, as compared with radio or television which is primary for non-users.

Exposure to Radio or Television Material about Dog Guides . . . Percentage of respondents with visual acuity of 5/200 or less reporting radio or television material about dog guides:

Dog users — 60%; Non-users — 46%

Thus, dog guide users provide the major source of discussion about dog guides, and themselves report more exposure to mass communications about dog guides.

7.7 Major Findings in Outline

In this final section, selected findings are listed in capsule form. These findings are most directly applicable to the New York State population of blind persons, age 15 to 55. While application to the national population within this age range cannot be statistically demonstrated, the findings point up trends of interest to the field of service for blind persons, since they represent the best available estimates. Continued research in the area of travel adjustment of blind persons is needed.

(1) The potential qualified demand for dog guide training represents approximately one percent of the total population of legally blind persons.

(2) This demand does not exceed the training capacity of dog guide schools.

(3) The travel performance of most blind persons is at a lower level than it needs to be.

(4) Most blind persons are dissatisfied with their travel performance.

(5) This dissatisfaction is largely unaccompanied by active plans for improvement.

(6) The choice of a mode of travel does not represent long and purposeful deliberation for most persons.

(7) Only one-third of blind persons report having had travel training of any duration or quality.

(8) Travel training is associated with a greater amount of thought being given to the choice of a travel mode.

(9) Discussion about dog guides with other persons is also associated with a greater amount of thought given to the choice of a travel mode, and with the consideration of dog guides.

(10) Family members of blind persons are most frequently cited by them as sources of discussion about travel adjustment.

(11) Blind persons with successful adjustment serve as role models for other blind persons.

(12) Dog guides are viewed favorably by users and by sighted persons. Blind persons are generally favorable, but have mixed attitudes leading to lack of active desire for dog guide use.

(13) Major sources of negative information about dog guides are provided by blind persons, agency workers and family members.

(14) A considerable amount of misinformation exists concerning admission policies and requirements of dog guide schools. Lack of information exists about problems of daily care and control of dog guides.

(15) Dog guide users represent a selected part of the population of blind persons. They differ from others favorably on social class level, amount of education, employment status, travel performance and concern for travel.

(16) According to figures reported by dog guide schools, probably less than 3500 or 1% of the total legally blind population currently use dog guides.

Chapter VIII

DIRECTIONS FOR SERVICE

8.1 Introduction

A number of lines of action are suggested by the findings summarized in the last chapter. These lines of action, to be presented in this final chapter, are pertinent for the general field of service to blind persons and for the special part represented by dog guide training centers. Indeed, as will become clear, recommendations for the total field and the specialized part overlap to a considerable degree.

The recommendations do not imply that the field is not already proceeding along indicated lines. However, increased emphasis in certain directions and, to some extent changes in emphasis, are suggested.

The discussion is presented in four sections. The first section addresses implications for the organization of dog guide training services. The second section is concerned with the general problem of improvement of travel adjustment of blind persons. The third section focuses on the consideration of dog guide services by the field of service to blind persons. The final section draws implications for dog guide schools pertinent to influencing the demand for dog guide services.

8.2 Resources for Dog Guide Training

One of the central findings of this study is that the number of potential trainees who are fully qualified and fairly immediately available does not exceed the current training capacity of dog guide schools. It follows that dog guide schools cannot anticipate an increase in demand for their services.

Hence, given the current situation, expansion of service facilities is not indicated. Moreover, if any dog guide center were to succeed in increasing its enrollment, the increase would represent decreased enrollment in other schools, rather than provision of services not available elsewhere.

The current study did not undertake direct investigation of the standards of dog guide training centers. However, a number of sources provide evidence that a very small number of such centers have high standards of personnel and program, and that a problem of unevenness exists in other centers. Questionnaire replies from all dog guide schools, and discussions with leadership personnel in a position to have expert knowledge of the situation point to this evaluation.

Certainly, in view of the contribution to better travel adjustment which dog guide training represents, fund raising for the maintenance of high quality services is indicated when financial aid is indicated. However, the findings of this study do not support fund raising for expansion of services on any scale at the current time.

In a situation of multiple appeals for public support, and a balance of training demand and existing resources, the need for attention to quality of services is highlighted. The fact of limited demand and the importance of quality programs suggest that maintenance of standards in the field would seem more likely to come through concentration of service load in centers of proven quality. With a limited number of high quality centers working at full capacity and in an atmosphere of mutual respect, statements of standards can be fully developed and long-range needs and resources in the field more adequately assessed. Given this situation, the resources will be forthcoming and the need for dog guides will be met.

8.3 Improvement of Travel Adjustment

This study has concluded that most blind persons do not fulfill their potentialities for travel adjustment, are dissatisfied with their travel performance, and are largely resigned to the pattern of restricted travel. This situation challenges the field of service to blind persons, especially if it is to be guided by the assumption that optimum travel adjustment is essential to general social and psychological adjustment.

The dissatisfaction with travel performance represents a possible base for helping blind persons to shift from passive acceptance of a dissatisfying situation to active involvement and participation in improvement of travel function. This objective calls for skilled and high quality services of a well-rounded nature. Psychologically and socially oriented services are needed to gain understanding of the individualized emotional and social situations of blind persons.[1] On the basis of this understanding, both psychological and concrete services may then be offered to make possible the positive involvement in travel training programs, to be administered by competent travel instructors. Such a total rehabilitative approach is necessary because of the complex social, motivational and skills aspect of travel training.

Special note should be taken of the minimal travel performance generally enforced by dependence upon human guides. For blind persons who are physically able to use other modes, the use of human guides as the primary means of travel cripples social function, and may be inferred to have parallel psychological effects. There are undoubtedly situations and individuals where the general use of human guides is appropriate, but these are probably exceptional. The implication for the field of service is clear. The number of human guide users should be reduced to a minimum through much greater emphasis on a well-rounded, high quality program of travel services.

---

[1] See Finestone, Samuel. Ed., *Casework and Blindness* (op cit) for a discussion of the social casework approach in assistance to blind persons.

Community influences upon the rehabilitation of blind persons require attention. Continued community education should be directed so that the environment of blind persons is one which provides both the expectation of full social participation and the means of such participation through opportunities for competitive employment or for the performance of other useful social roles, such as employment in competitive industry, housewife or student. Social, medical and educational agencies should look to their own practices in these respects, and undertake the education of the community at large along these lines.

Ophthalmologists constitute a special group because of their potential for positive rehabilitative influence upon blind persons. Their interest may assist newly blinded persons in taking the first steps toward a necessary personal and social reorganization.[2]

8.4 Dog Guides, and the Field of Service for Blind Persons

The previous section has stressed the importance of raising the general level of active concern for travel improvement among blind persons. Such active concern is a pre-condition for travel training of any kind.

Once persons can be encouraged to consider the importance of travel and to weigh alternative methods, the dog guide will come up for consideration in a proportion of the cases. Relatively few blind persons possess the capacity for dog guide training or interest in it. However, conviction of the importance of travel, and commitment to travel training of any kind will create a necessary, if not sufficient, condition for the choice of dog guides.

It would be unrealistic to fail to note that lack of information and negative opinions about dog guides exist among a proportion of agency personnel serving blind persons. One observation has been made which attempts to explain this fact.

---

[2] A special study of the potential for positive influence by ophthalmologists was undertaken as part of this study. A report has been published separately. See: Finestone, Samuel and Gold, Sonia "The Role of the Ophthalmologist in the Rehabilitation of Blind Patients," New York: American Foundation for the Blind, and The Seeing Eye, Inc., 1959.

> "The two major travel techniques which have been adopted have followed different courses of development. Cane instruction has tended to become an integral part of an agency program, functioning as one aspect of a multi-disciplinary team approach. On the other hand, instruction in the use of dog guides has evolved into a service offered by specialized agencies dealing entirely or in large part with this problem.
>
> "One consequence of this high degree of specialization has been a geographical and professional isolation which has separated workers in the dog guide field from others in service to the blind.
>
> "As a result, educational and rehabilitation personnel serving blind individuals are less well-informed about the use of dog guides than about other rehabilitation services."[3]

The findings of this study, and of other studies have indicated that while at the present time relatively few blind persons meet all requirements for dog guide training, for those who do, dog guide use is associated with relatively better general adjustment, and relatively better travel adjustment. As has been noted, such findings are suggestive, rather than conclusive as to the contribution of dog guide training, because selective factors operate through the policies of dog guide schools, and through other ways.

However, certain reasonable lines of action would seem indicated. In the first place, persons who have the requisites for dog guide use should be given an objective picture of the nature of both cane and dog guide modes of travel. The opportunity to weigh alternatives, and to make decisions is of prime importance, no matter what the mode of travel selected.[4]

For persons in the Primary Reservoir (meeting all requirements) little action is needed, except, perhaps, for some information as to how to proceed to get in touch with a dog guide school of known standards. Specialized types of service not within scope of dog guide school programs are needed, however, for persons in subsidiary reservoir groups; that is, persons who have physical and intellectual capacity for dog guide use, but are limited either by emotional difficulties, situational difficulties, or lack of movation. Individualized services for persons in the Emotional Difficulties Reservoir group and the Situational Difficulties Reservoir group will enable them to make free choices as to the mode of travel. Many of them will wish to select dog guide training, others cane training. Whatever the decision, travel performance is likely to be improved. Those with Motivational Difficulties need similar individualized services to break the pattern of resignation to low levels of travel performance. In the long run, however, community understanding and attitudes need to be developed which both stimulate and support the full social participation of blind persons.

---

[3] Rusalem, Herbert "Research in Review" *The New Outlook for the Blind,* June 1959, p. 232.

[4] This suggested principle also appears in a report "Rehabilitation Centers for Blind Persons," Washington, D. C.: U. S. Department of Health, Education and Welfare, Office of Vocational Rehabilitation, February 1956, p. 14. "Every (rehabilitation) center should give such information about dog guides that trainees will have complete, unbiased information about their availability."

What is really being suggested is closer coordination between general agencies for blind persons and the dog guide training centers of high quality. The objective of improved travel adjustment of blind persons is one which both groups share.

8.5 Influencing the Demand for Dog Guides

The most important means of influencing the demand for dog guides has already been presented, namely, raising the general level of concern for travel adjustment. Increased demands for dog guides may reasonably be expected as a by-product.

More specific measures may also be suggested, of particular importance for the community interpretation activities of the very few dog guide schools of sufficient standards to carry on such activities. Three questions seem involved: the appropriate targets of influence; the appropriate media for influence, and the appropriate content of interpretation.

The sighted public seems to have been a major and highly receptive target of interpretation, and this seems to have led to generally favorable disposition to dog guides and appeals for funds to provide them. However, blind persons and agency personnel need to receive as much attention, since they have more effect upon the attitudes toward dog guides. A balance in the target of interpretation programs is indicated.

Both persons and mass communications represent media of influence. Among personal influences, dog guide users themselves have been seen to play a key role because, in spite of their small numbers, they reach many blind persons, and provide examples of use of dog guides and have positive convictions about the value of dog guides.[5] Without exploiting them, their influence may be increased if they are alerted to certain kinds of information to be described later.

Though personal influences are most frequent, fair numbers of blind persons are exposed to material concerning dog guides through mass media. Because of the greater impact of reading materials, despite the greater coverage provided by television and radio, it appears to be useful to focus attention upon attractive printed and recorded literature. In this connection, the use of braille materials may also be investigated to see whether this source of interpretation can be further emphasized. Again, a balance of media used, rather than concentration, appears indicated.

A number of themes for appropriate content of interpretation have already been implied. The findings as to the association of dog guides with social competence and travel competence should provide one source of emphasis. While these themes have probably aready been emphasized, there are other content areas which have been insufficiently communicated. There seems to be little information on the part of respondents as to certain realistic details as to admission requirements, costs, and amount of time for training. Also, practical information concerning what is involved in the feeding and general care of dog guides, and in the control and discipline of dog guides, needs to be more generally communicated.

With a balance in the targets and media of interpretation, and with the indicated content emphases, the primary reservoir of candidates for dog guide training may be increased.

---

[5] There is, of course, evidence of good and bad examples of dog guide use. The temperamentally unsuited or unskilled dog guide user may very well offset the positive influence of more than one effective user. The necessity for high standards in selection and training is, therefore, indicated.

APPENDIX A

CONSTRUCTION AND REPRESENTATIVENESS OF SAMPLE

A. *Preliminary Considerations*

The age restriction of the sample to those between the ages of 15 and 55 in June 1957 was necessitated by the fact that admission to the Seeing Eye and most dog guide schools is essentially limited to this age group, with very few exceptions. Also, because rates of blindness increase markedly with age, the blind population is largely an older group. Hence, if such older persons were included in any numbers in the sample, they would have been eliminated as potential dog guide users on the basis of age alone, leaving relatively few in the sample to provide a base for estimates of potentiality for dog guide training.

Similar considerations dictated some weighting of visual acuity groups in the sample. Persons between 11/200 and 20/200, whose visual acuity exceeded the level at which guide dog training was appropriate or offered, were sampled to only one-half the proportion of the rest of the sample. Their inclusion, even in reduced ratio, was, however, essential in extrapolating sample findings to the general blind population, as well as making certain comparisons possible. A very small number of blind persons on the register who had a constricted arc of vision, but whose visual acuity exceeded 20/200, were excluded from the sample.

The number of interview refusals was actually very slight, although blind persons had opportunity to refuse. The New York State Commission for the Blind wrote to persons who fell into the defined sample endorsing the field interview plan but offering opportunity to refuse interviews. Only those names and addresses were released to the interview staff who did not indicate objections to interview. The number of those who refused at any stage was negligible.

B. *Construction of the Sample*

The sampling was carried on in two phases. In New York City persons were randomly selected from the register who fell in the age range 15-55 and satisfied the other criteria established from the sample. About three hundred persons were selected by this procedure.

Only a small number refused to be interviewed. There were two major difficulties; the first one was the problem of persons whose age, vision or other status had changed, or were incorrectly listed on the register, and who, therefore, had to be eliminated from the sample; second, were persons who could not be located even after contacting agencies, the post office, local churches and neighbors. Substitutions were made by drawing up a pool of persons who reproduced the missing persons on age, sex, visual acuity, and data of registration as a blind person (as an index of length of blindness). From this pool, a substitute was drawn who matched the missing person on at least these four factors.

The rest of New York State consists of persons who reside in 57 counties outside New York City. It would be impracticable to attempt to draw a random sample over such a wide geographical area, so that a modification was made in drawing up the sample. First, a selection of counties was made that reproduced the major characteristics of the 57 counties outside New York City. The indices used were selected to reflect major population characteristics, the industrial and economic composition of the counties, and important social characteristics. As demonstrated in appendix tables, these counties span the range of all counties on the selected attributes, and come close to the state values on the averages of these indices. In addition, the blind population within these selected counties was compared to the entire upstate population on a number of traits to ensure that they were not markedly different. They were compared on employment, age and sex. Eight counties were finally selected to represent the 57 up-state counties in New York. As a further precaution, the age, sex, visual acuity and date of registration were obtained for all persons on the register in the up-state counties to serve as benchmarks for the sample. Persons within the eight sample counties were forced to match these same characteristics, thereby ensuring representativeness. Within these groups of persons selection was made randomly. Fewer replacements were made in the up-state area because it was a simpler matter to locate persons who had moved than it was in New York City.

The first step in the construction of the sample was to select an appropriate ratio between urban and rural interviews, using the five boroughs of New York City to represent metropolitan conditions, and all other counties of New York State as a group to represent conditions ranging from rural to small city. As can be seen from Table 1, the sample is an exact-replication of the urban-rural ratio of the population:

TABLE A.1 RATIO OF NEW YORK CITY BLIND TO NON-NEW YORK CITY BLIND IN POPULATION AND SAMPLE

(Non-institutionalized, 15-54 years)

	Number on Register	*Percent*	*Sample*	*Percent*
New York City	3,706	60.8%	304	60.8%
Non-New York City	2,394	39.2	196	39.2
Totals	6,100	100.0%	500	100.0%

Although New York City was sampled as a unit, care was taken to preserve the proportion of the blind population of each borough. It was felt that heavier weights in some boroughs reflected important environmental conditions which it was necessary for the sample to reproduce. Hence, sample proportions conform closely to population proportions, as can be seen from Table 2.

TABLE A.2 DISTRIBUTION OF BLIND POPULATION IN FIVE NEW YORK CITY BOROUGHS AND PROPORTION OF SAMPLE

County	*Total 15-54 Years*	*Percent of N.Y.C. Blind*	*Total Interviews Completed*	*Percent of Completed Interviews*
Bronx	625	16.9%	49	16.1%
Kings	1,338	36.2	109	35.9
New York	1,130	30.7	100	32.9
Queens	543	14.7	41	13.5
Richmond	56	1.5	5	1.6
Totals	3,692	100.0%	304	100.0%

Within New York City, persons were sampled by a strict application of random method. First, one out of every six persons were selected. When it was found that some names which were drawn were inaccurately registered, and others were non-locatable, replacements from within the original one-sixth sample pool were made, matching the new interviewee with the rejected one in such important characteristics as age, sex, visual acuity and place of residence. The following table summarizes this procedure:

TABLE A.3 DERIVATION OF NEW YORK CITY RANDOM SAMPLE, BY BOROUGH

County	*Total Registration*	*Removed For Not Meeting Criteria*	*Refusals*	*Non-Locatables*	*Completed Interviews*
Bronx	626	31	4	21	49
Kings	1,342	63	6	41	109
New York	1,139	46	6	37	100
Queens	543	32	6	15	41
Richmond	56	4	0	0	5
Total	3,706	176	22	114	304

Many statistics were examined before the selection of eight counties to represent the rest of New York State. Table 4 compares certain key economic, health and other demographic variables selected from these indices as they appear in total non-New York City population and in the non-New York City sample of counties. Notice how closely the means of the sample counties compare with those for the entire upstate group.

TABLE A.4 COMPARISON OF SAMPLE COUNTIES TO ALL NEW YORK STATE COUNTIES ON DEMOGRAPHIC VARIABLES

	Personal Income			*Education*	*Health Index*	*Age*		*Occupation*	
	Per Capita Income[1]	*% Families Less than $2,000*[2]	*% Families More than $5,000*[2]	*Mdn. yrs. school*[2]	*Inf. Mort. per 1,000*[2]	*Mdn. Yrs.*[2]	*% Over 65*[2]	*% in mfg.*[1]	*% in agr.*[1]
Mean for New York State	$2,163	19.6	26.8	9.6	23.2	33.7	8.5	30.3	3.0
Mean for all non-N.Y.C. counties	1,773	19.6	25.5	9.9	21.6	33.0	9.3	32.3	5.8
Mean for sample Counties	1,867	19.1	25.9	10.4	22.8	33.4	9.6	31.5	5.2
Cortland	1,478	30.3	15.4	10.2	33.1	30.6	10.8	36.7	16.0
Monroe	1,730	15.8	28.3	10.2	23.7	33.9	9.3	45.1	2.2
Onandaga	2,011	18.3	24.0	10.7	22.8	31.6	9.1	35.6	2.9
Orange	1,722	23.2	20.0	9.0	19.4	34.1	11.1	27.2	8.8
Oswego	1,203	31.6	12.5	9.4	24.3	30.8	10.3	40.0	12.6
Rockland	1,730	17.8	27.3	10.6	25.0	32.6	9.0	29.9	2.4
Suffolk	1,600	19.6	25.1	10.1	20.6	35.6	10.1	18.3	8.2
Westchester*	2,876	13.4	42.2	12.0	24.1	34.7	8.3	24.5	1.3

[1] 1954 figures.

[2] 1950 figures.

*Since only ½ of the blind population of Monroe County and ¼ of the blind population of Westchester County were sampled, the statistics from these two counties enter the mean appropriately weighted.

As an additional check to assure representatives, the sample counties were chosen to represent accurate proportions of ethnic groups, since conceivably different ratios of blindness could obtain for different groups. Table 5 demonstrates the "closeness of fit" of ethnic and racial origins between sample counties and all non-New York City counties.

TABLE A.5 COMPARISON OF SAMPLE COUNTIES TO ALL NEW YORK STATE COUNTIES ON RACE AND ETHNIC ORIGIN

	Percent Non-White	*British Isles*	*Canada*	*North & West Europe*	*East & South Europe*	*Italy*	*Other*
New York State	6.5	2.3	0.8	2.7	6.6	3.4	1.1
Mean for non-NYC Counties	3.3	1.8	1.2	2.2	3.3	1.4	0.6
Mean for sample Counties	3.2	2.0	1.0	2.4	3.1	2.8	0.7
Cortland	0.2	0.9	0.7	0.5	0.6	1.6	0.3
Monroe (½)	1.7	1.9	1.8	2.1	2.4	4.0	0.5
Onandaga	1.8	1.5	1.2	1.1	2.3	2.6	0.6
Orange	3.5	2.0	0.3	3.3	2.6	2.0	0.5
Oswego	0.2	0.7	1.1	0.5	1.2	1.5	0.3
Rockland	5.2	2.0	0.5	2.7	4.7	2.2	0.7
Suffolk	4.9	2.9	0.7	4.3	5.0	2.5	1.1
Westchester (¼)	6.2	3.0	0.8	2.7	3.5	4.3	1.0

It will be remembered from the discussion in Section 2.3 that in choosing counties to constitute a sample, the characteristics of the blind population were taken into account, as well as those characteristics of total population summarized in Tables 4 and 5. The following series of tables were made up with the aid of the New York State Commission for the Blind, which provided the figures from its registry. Since detailed information suitable for determining population values has been available only since 1956, these tables refer to new registrations during 1956 only.

TABLE A.6 COMPARISON OF SAMPLE COUNTIES TO ALL NEW YORK STATE COUNTIES ON AGE AT TIME OF REGISTRATION

(Those registered during 1956 only)

Age at Time of Registration	*All Counties Outside New York City*	*Non-New York City Sample Counties*
0-14	10.4%	10.8%
15-29	6.0	7.7
30-54	15.3	17.9
55 +	59.5	59.5
Unknown	8.8	4.1
	100.0%	100.0%
Total Number of Cases	(971)	(195)

TABLE A.7 COMPARISON OF SAMPLE COUNTIES TO ALL NEW YORK STATE COUNTIES ON VISUAL ACUITY

(Those registered during 1956 only)

Visual Acuity	*All Counties Outside New York City*	*Non-New York City Sample Counties*
Total Blindness	11.4%	11.3%
Light Perception	12.6	12.8
Object or Motion Perception up to 5/200	21.1	19.5
5/200	17.3	17.4
10/200 up to 20/200	12.5	14.9
20/200	19.1	17.9
Better than 20/200—Peripheral field 20 degrees or less	5.0	5.6
Not reported	1.0	0.6
Totals	100.0%	100.0%
Total Number of Cases	(971)	(195)

TABLE A.8 COMPARISON OF SAMPLE COUNTIES TO ALL NEW YORK STATE COUNTIES ON EMPLOYMENT STATUS OF BLIND PERSONS

(Those registered during 1956 only)

Employment Status	*All Counties Outside New York City*	*Non-New York City Sample*
Employed	2.2%	5.1%
Unemployed	14.9	17.4
Not Applicable		
Attending School	4.1	4.1
Housewife	6.8	6.2
Disability other than Blindness	3.2	1.5
Other	52.8	50.8
Unknown	16.0	14.9
Totals	100.0%	100.0%
Total Number of Cases	(971)	(195)

B. *Representativeness of the Sample*

In addition to constructing a sample design which seems likely to reproduce major conditions of the population under study, it is also necessary to administer a chi square test of significant differences, to determine if obtained interviews live up to the expectations of the sample design. In the following table, the results of these tests are summarized. First, chi square values for the total sample are presented. Secondly, the values are given for the New York City sub-sample, since individual names were drawn by a random method and those random drawings had to be checked against population values. In the upstate or non-New York City sample, individuals were drawn on the basis of their characteristics until a match with population values was achieved, hence it was not necessary to take separate tests.

TABLE A.9 CHI SQUARE TESTS OF DIFFERENCES BETWEEN TOTAL BLIND POPULATION OF NEW YORK STATE AND OBTAINED SAMPLE OF BLIND PERSONS

Area	*Characteristic*	*Chi Square Values*	*Degrees of Freedom*	*Probability*
New York State (inc. NYC)	Sex	1.073	1	.30
	Age	1.832	4	.80 > P > .70
	Length of Blindness	3.393	3	.20 > P > .10
New York City only	Sex	1.765	1	.20 > P > .10
	Age	2.152	4	.80 > P > .70
	Length of Blindness	.257	3	.98 > P > .95

The final column of this table tells us the probability of achieving these chi square values by chance. Thus, in the first row, we see that we would achieve the chi square value of 1.073 for the sex ratio of the sample, 30% of the time by chance. In other words, differences between the sex ratio of the sample and that of the population from which the sample was drawn may be attributed to chance variations, since we would find such variations at least 30% of the time. Likewise, the variation between age distribution of the sample and that of the population would be found more than 70% but less than 80% of the time. All of the probabilities in this column fall within acceptable limitations of chance variation, since differences are not significant by the chi square test until they reach at least an .05 probability, that is differences which are found only 5% of the time or less. Therefore it can be stated that the sample drawn from the blind population of New York State represents that population within accepted limits of chance variation.

APPENDIX B — GUTTMAN AND CUMULATIVE SCALES

TABLE OF CONTENTS

1. Introduction of Guttman Scales
1.2 Visual Perception
1.3 Care-Maintenance of Dogs
1.4 General Attitudes Toward Dog Guides
1.5 Perceived Attitudes of Others to Dog Guides
1.6 Perceived General Public Image of Dog Guides
1.7 Motivation for Travel
1.8 Sighted Guide Preference
1.9 Misinformation
1.10 Travel Extensiveness
1.11 Travel Frequency
2. Introduction to Cumulative Indices
2.1 General Health Score
2.2 Hearing Difficulty
2.3 Degree of Travel Vision
2.4 Intelligence and Education
2.5 Social Class
2.6 Emotional Stability
2.7 Travel Efficiency
2.8 Satisfaction with Own Travel Mode
2.9 Situational Difficulties
2.10 Satisfaction with Own Travel Performance
2.11 Travel Difficulties
2.12 Self-Evaluation Re: Travel
2.13 Dog Guide Approval
2.14 Independence of Recent Travel Mode

APPENDIX B

1. *Introduction to Guttman Scales*

Three criteria were used to determine whether a given group of items formed a Guttman Scale. A few points about patterns of items would clarify these criteria.

When items are scored dichotomously, e.g. agree vs. disagree, these items can be arranged in order of their "popularity"—from most to least popular. Such an order is illustrated by three items such that 90% of a group agrees to item 1, 50% to item 2, and 10% to item 3. The way an individual responds to this ordered set of items forms a "response pattern." Agreeing to item 1, disagreeing to item 2, and agreeing to item 3 would comprise one response pattern, with other agree-disagree combinations forming other response patterns. Response patterns are of two types, consistent and inconsistent. In the case of consistent response patterns, anyone who agrees to a given item also agrees to all of the more popular items in the set. Thus in the case of the ordered set of three items described above, agreement to items 1 and 2 and disagreement to item 3 forms a *consistent* response pattern since agreement is accompanied by agreement with the more popular item 1. However, agreeing to item 2 and 3 but disagreeing with item 1 would result in an *inconsistent* response pattern, since agreeing with the less popular items 2 and 3 is accompanied by a somewhat incongruous *dis*agreement with the more popular item 1.

The more clearly the items in the ordered set measure one and only one underlying attribute or dimension, the less the number of individuals yielding inconsistent response patterns. The three criteria describe the degree to which the scale meets this assumption of unidimensionality by furnishing indices of the frequency with which individuals yield consistent or inconsistent response patterns.

Thus the *Reproducibility Index* gives the percentage of total responses which falls into consistent response patterns. On a one-item inventory, a group of 100 individuals would give 100 responses, e.g. 75 agree and 25 disagree. On a three-item inventory a group of 100 would give 300 responses. A Reproducibility Index of 90% indicates that of these 300 responses 90% fell into consistent and 10% into inconsistent response patterns.

The *Non-Scale Error* is calculated only for the inconsistent response pattern containing the greatest number of individuals. Non-Scale Error is the percentage of all sample individuals who have this inconsistent response pattern.

For each item, the percentage of all responses which falls into inconsistent reaction patterns may be calculated. *Item Error* is the highest of these percentages. Rule of thumb recommendations given by Ford* point out that Reproducibility should be at least 90%, that Non-Scale Error should be no greater than 5%, and that Item Error should not exceed 15%.

Six of the nine Guttman Scales described in the following pages conform to all three of these criteria, with Reproducibility above 90%, Non-Scale Error around the 5% mark, and Item Error within the 15% limit. The remaining three scales have Non-Scale Errors somewhat greater than 5% despite adequate Reproducibility and Item Error. These scales include Travel Extensiveness, Care-maintenance of Dogs, and Travel Frequency, with Non-Scale Errors of 7.4%, 13.4%, and 9.6% respectively. These scales thus contain somewhat excessive concentrations of individuals in one of the inconsistent response patterns. However, the three measures were retained as Guttman Scales in their present form because of their relatively high Reproducibility, signifying that in the over-all scale range there is low frequency of individuals in inconsistent reaction patterns, and because of the low Item Error, implying that none of the items used was sufficiently multidimensional to warrant its exclusion from its particular scale.

---

*Ford, R. N. "A Rapid Scoring Procedure for Scaling Attitude Questions," *Public Opinion Quarterly,* V. 14, 1950-51, pp. 507-532.

1.2 GUTTMAN SCALE: Visual Perception

Scale Criteria:

Reproducibility	97.9%
Non-Scale Error	5.8%
Item Error	2.0%

Items and Weighting Scheme:

Item	Weighted Response	Percentage Giving Weighted Response	Weight
1. Do you have light perception?	Yes	76.0%	1
2. Can you see moving objects?	Yes	61.2%	2
3. Can you recognize people?	Yes	42.2%	4
4. Can you read print?	Yes	39.0%	8

Characteristics of Scale Points:

Scale Point	Cumulated Weights Assigned To Scale Point	Percent At Scale Point
0	00, 04, 08	23.5%
1	01, 02, 05, 09	14.7%
2	03, 10	14.5%
3	06, 07, 11	14.9%
4	12, 13, 14, 15	32.4%
		100.0%

1.3 GUTTMAN SCALE: Care-Maintenance of Dogs

Scale Criteria:

Reproducibility	91.5%
Non-Scale Error	13.4%
Item Error	8.8%

Items and Weighting Scheme:

Item	Weighted Response	Percentage Giving Weighted Response	Weight
1. The expense of feeding a dog would put quite a strain on my budget	Yes	40.4%	1
2. I'm not able to give dogs the care and attention they need	Yes	29.9%	2
3. You have lots of embarrassing moments with dog guides because you can't keep them trained.	Yes	18.1%	4

Characteristics of Scale Points:

Scale Point	Cumulated Weights Assigned To Scale Point	Percent At Scale Point
0	00, 04	44.0%
1	01, 02	29.1%
2	03	14.5%
3	05, 06, 07	12.4%
		100.0%

1.4 GUTTMAN SCALE: General Attitudes Toward Dog Guides

Scale Criteria:

Reproducibility 93.0%
Non-Scale Error 6.0%
Item Error 10.4%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. Because of my early experiences, I've always been frightened of dogs.........	No	79.7%	1
2. I don't particularly like having dogs around	No	68.5%	2
3. I'm not able to give dog guides the care and attention they need..............	No	52.6%	4
4. Dog guides are all right for some people, but not for me.....................	No	27.5%	8

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04, 08	11.4%
1	01, 09	7.0%
2	02, 03, 10, 11	25.4%
3	05, 06, 07	28.2%
4	12, 13, 14, 15	27.6%
No Information		.4%
		100.0%

1.5 GUTTMAN SCALE: Perceived Attitude of Others Toward Dog Guides

Scale Criteria:

Reproducibility 94.5%
Non-Scale Error 7.2%
Item Error 6.0%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. Some members of my family are not very friendly to dog guides..............	No	73.1%	1
2. I have friends whom I couldn't visit with a dog	No	61.4%	2
3. When there are children you have to be extra careful with a dog guide........	No	26.5%	4

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04	17.3%
1	01, 02	23.5%
2	03	34.5%
3	05, 06, 07	24.7%
		100.0%

1.6 GUTTMAN SCALE: Perceived General Public Image of Dog Guides

Scale Criteria:

Reproducibility 92.6%
Non-Scale Error 6.2%
Item Error 8.8%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. I don't think it looks well to walk down the street with a dog in harness........	No	73.3%	1
2. Dogs shouldn't have to work—they are happier as pets	No	59.2%	2
3. People with dog guides frequently have trouble controlling them in public.....	No	45.0%	4
4. Dog guides attract more attention than a white cane	No	29.5%	8

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04, 08	13.1%
1	01, 02, 05, 09	26.8%
2	03, 10	15.1%
3	06, 07, 11	27.5%
4	12, 13, 14, 15	17.5%
		100.0%

1.7 GUTTMAN SCALE: Motivation for Travel

Scale Criteria:

Reproducibility 92.1%
Non-Scale Error 5.4%
Item Error 8.8%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. When I cross streets with heavy traffic I wish I could do it with less worry....	Yes	54.0%	1
2. I would visit friends more often if I could get around by myself...........	Yes	38.2%	2
3. I would get a more interesting job if I could travel more freely..............	Yes	28.1%	4
4. I don't feel the need to travel any diferently than I do now...............	No, Qualified, Don't know	19.7%	8

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04, 08	34.8%
1	01, 02, 05, 09	30.8%
2	03, 10	9.8%
3	06, 07, 11	16.3%
4	12, 13, 14, 15	8.3%
		100.0%

1.8 GUTTMAN SCALE: Sighted Guide Preference

Scale Criteria:

Reproducibility	94.3%
Non-Scale Error	6.0%
Item Error	9.8%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. Sighted guides provide a companionship I like very much	Yes	71.3%	1
2. If I had a choice, I would prefer a sighted guide to any other form of travel	Yes	48.6%	2
3. If I could afford it, I would use a sighted guide more than I do	Yes	31.1%	4
4. It's unfair to expect sighted persons to lead you around all the time	No	18.1%	8

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04, 08	27.3%
1	01, 02, 05, 09	14.1%
2	03, 10	28.1%
3	06, 07, 11	25.5%
4	12, 13, 14, 15	5.0%
		100.0%

1.9 GUTTMAN SCALE: Misinformation

Scale Criteria:

Reproducibility	96.8%
Non-Scale Error	4.8%
Item Error	3.9%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. Seeing Eye charges more than any other school	Yes and Don't know	76.3%	1
2. Training at Seeing Eye takes at least three months of your time	Yes and Don't know	57.6%	2
3. Dog guides, from whatever school, are pretty much the same	Yes	39.2%	4

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 02, 04	22.6%
1	01	21.6%
2	03	40.5%
3	05, 06, 07	15.3%
		100.0%

1.10 GUTTMAN SCALE: Travel Extensiveness

Scale Criteria:

Reproducibility	95.6%
Non-Scale Error	7.4%
Item Error	6.0%

Items and Weighting Scheme:

Item	*Weighted Response*	*Percentage Giving Weighted Response*	*Weight*
1. During the past two weeks, have you traveled in the immediate neighborhood?	Yes	89.6%	1
2. During the past two weeks, have you taken a bus, car, or train to get where you are going?	Yes	80.9%	2
3. During the past two weeks, have you walked at least a half mile in one stretch from your home?	Yes	58.6%	4

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04	3.4%
1	01, 02	9.9%
2	03	26.1%
3	05, 06, 07	56.2%
No Information		4.4%
		100.0%

1.11 GUTTMAN SCALE: Travel Frequency

Scale Criteria:

Reproducibility	94.0%
Non-Scale Error	9.6%
Item Error	10.0%

Items and Weighting Scheme:

Item Description (Positive Response)	*Percentage Giving Weighted Response*	*Weight*
1. Has travelled in immediate neighborhood at least twelve times in past two weeks	73.3%	1
2. Took bus, car, or train at least nine times in past two weeks	39.4%	2
3. Has walked one-half mile from home at least nine times during past two weeks	22.5%	4
4. Has gone to unfamiliar place at least five times in last month	12.7%	8

Characteristics of Scale Points:

Scale Point	*Cumulated Weights Assigned To Scale Point*	*Percent At Scale Point*
0	00, 04, 08	37.6%
1	01, 02, 05, 09	30.7%
2	03, 10	14.9%
3	06, 07, 11	7.4%
4	12, 13, 14, 15	9.4%
		100.0%

2. *Introduction to Cumulative Indices*

The cumulative index does not impose as rigorous a set of criteria of unidimensionality as that imposed by the Guttman Scale. Correlation among items rather than the small number of inconsistent response patterns is generally used for selection of the items comprising a cumulative scale. Weights are assigned to individual responses, and the final score depends upon the number of positive responses to the total series of items or indices which comprise the index. Thus, both Respondents A and Respondents B may give positive responses to 4 out of 5 items of a cumulative scale, but we do not know to which items, whether the "popular" or the "unpopular" ones. Their scores fall on the high end of the scale because of the cumulative weight they have thrown into the scale, rather than because of progressive weights associated with individual items.

2.1 Cumulative Index: General Health Score

Items, Weighting Scheme, and Scores:

Items And Weighted Categories	*Weight*
1. *Interference with Walking:*	
(1) Marked	0
(2) Modified	1
(3) Unclear	2
(4) No interference	3
(5) Don't know, or no answer	0
2. *Self Description of Health:*	
(1) Excellent	3
(2) Good	2
(3) Fair	1
(4) Poor	0
(5) Don't know, no answer	0
3. *Degree and Kind of Illness:*	
(1) Is sick, has a specific disease	0
(2) Is sick, reports symptoms only	1
(3) Unclassifiable, vague	2
(4) Is sick, but not under doctor's care	2
(5) Not sick, not under doctor's care	3

Scores	*Cumulated Weights Assigned to Score Points*	*Present At Score Points*
0 (Poor)	0-2	11.6%
1 (Fair)	3	8.6%
2 (Good)	4-7	23.5%
3 (Excellent)	8-9	56.2%
		100.0%

2.2 CUMULATIVE INDEX: Hearing Difficulty

Items, Weighting Scheme, and Scores:

Items	*Weighted Response*	*Weight*
1. Would you generally rather have people speak to you louder?	Yes	3
2. Do you have any trouble with your hearing?	Yes	2
3. Do you have any trouble with your hearing?	No	1

Score	*Description*	*Percent at Each Score Level*
1	None	85.4%
2	Some	9.2%
3	Marked	4.8%
No Information		.6%
		100.0%

2.3 CUMULATIVE INDEX: Degree of Travel Vision

Items, Weighting Scheme, and Scores:

Items	*Weighted Response*	*Weight*
1. Can you make out people on sidewalks or large obstacles?	Yes	2
	Sometimes	1
2. Can you make out windows and doors of buildings?	Yes	2
	Sometimes	1

Scores	*Percent at Each Score Level*
0	44.4%
1	3.6%
2	6.6%
3	7.4%
4	37.6%
No Information	.4%
	100.0%

2.4 CUMULATIVE INDEX: Intelligence and Education

Items, Weighting Scheme, and Scores:

Items and Weighted Responses	*Weight*
1. How many years of school have you completed?	
Years: -0 - 4	0
5 - 7	5
8	7
9 - 11	13
12	17
13 - 15	22
16	26
16	30
2. Test Intelligence Scores*	
Scores: 0	0
1	5
2	10
3	15
4	20
5	25
6	30

Scores are cumulated, and then are ranked into 8 approximately equal groups:

Rank	*Percent At Each Rank*
1	13.7%
2	17.3%
3	12.0%
4	11.7%
5	10.7%
6	11.4%
7	12.4%
8	10.8%

---

* "The Goossen Hidden Intelligence Test," *Public Opinion Quarterly,* Vol. 14, Winter 1950-51, pp. 759-766.

2.5 CUMULATIVE INDEX: Social Class

Items	*Weight*
1. *Dwelling Level*	
(1) Upper class, middle class	1
(2) Marginal, slum or can't evaluate	0
2. *Occupation*	
(1) Professional, semi-professional, executive and managerial, farm owner, small business owner, sales and kindred	1
(2) Skilled and foreman, semi-skilled, domestic, farm labor, mendicant	0
3. *Education*	
(1) 12-16 years of school	1
(2) 0-11 years of school	0

Scores	*Classification*
0	Lower-lower
1	Upper-lower
2	Lower-middle
3	Upper-middle

2.6 CUMULATIVE INDEX: Emotional Instability

Items, Weighting Scheme and Weights:	*Rating*
1. Psychosis Rating	
(1) No apparent disturbance in reality testing, appropriate affect and ideation	None
(2) Some indication of possible psychopathology, revealed in affect or ideation, which raises questions as to appropriateness	Moderate
(3) Distinct indications of possible psychopathological functioning, distinctly inappropriate affect, or absence of affect, bizarre ideation, disturbance in reality testing	Extreme
(4) Can't evaluate	Suspected
2. Neurosis Dimension	
(1) Little, if any, indication of neurotic symptomatology, i.e. pervasive anxiety, self-doubt, phobic reactions, obsessive-compulsive trends, difficulties in relationship. Seems to function within normal ranges	None
(2) Some or moderate indication of neurotic symptomatology. Seems to function, but with difficulty	Moderate
(3) Marked indication of neurotic symptomatology. Seems to function with extreme difficultiy	Extreme
(4) Cannot evaluate	Suspected
3. Presence or absence of anxiety	
(1) Apparent ease, cheerfulness, little anxiety	None
(2) Moderate to considerable anxiety as a general affective tone, moderate to considerable insecurity	Moderate
(3) Marked pervasive anxiety indicated through content of replies, tone, physical indications, deeply insecure	Extreme
(4) Can't evaluate	Suspected

Weighting Scheme:

A score of 7 was assigned to persons with some or distinct indications of psychosis. For those without the psychosis rating, the following weights were assigned and cumulated into scores:

2	*1*	*0*
Extreme neurosis or Extreme anxiety or Can't evaluate psychosis	Moderate or Suspected Neurosis — or Moderate or Suspected Anxiety	No indication of neurosis, anxiety or psychosis

Category and Scoring Patterns		*Percent at Each Category Level*
None	— 0	48.4%
Slight	— 1, 2	38.6%
Moderate	— 3, 4, 5, 6	7.0%
Marked	— 7	5.6%
No Information		.4%
		100.0%

2.7 CUMULATIVE INDEX: Travel Efficiency

Indices, Weighting Scheme, and Scores:

1. Independence of Travel
2. Extensiveness of Travel
3. Frequency of Travel

Scores	*Description*	*Percent at Each Score Point*
1	Lowest* on 3 indices	10.2%
2	Lowest on 2 indices	14.8%
3	Lowest on 1 index	20.0%
4	Lowest on no indices, but not highest on all 3 indices	31.2%
5	Highest on all 3 indices	23.4%
	No information	.4%
		100.0%

---

* Each of the 3 indices (Independence, Extensiveness, and Frequency of Travel) was trichotomized into highest, lowest, and medium thirds. Those in the lowest third comprised the most unindependent, inextensive, or infrequent travelers depending upon the scale.

2.8 CUMULATIVE INDEX: Satisfaction with Own Travel Mode

Items, Weighting Scheme, and Scores:

Items	*Weighted Response*	*Weight*
1. I don't feel the need to travel any differently than I do now	Yes	1
2. A blind person has to plan things to avoid unnecessary travel	No, Don't know Qualified	1
3. I would like to get places more quickly than I do	No	1

Scores	*Description*	*Percent at Each Score Point*
0	Dissatisfied	10.7%
1	Some satisfaction	35.1%
2	Moderate satisfaction	35.1%
3	Satisfied	19.1%
		100.0%

2.9 CUMULATIVE INDEX: Situational Difficulties

Items, Weighting Scheme, and Scores:

Items (Weight of 1 given to each positive response):

1. I can't spare a month to train for a dog guide.
2. I'm not permitted to have a dog here.
3. There's little room for a dog in my house.
4. Dogs are not liked where I work.
5. My boss (teacher, supervisor) doesn't appreciate having dogs around the place all day.
6. Some people at the agency I go to disapprove of dog guides.
7. There is little place to walk a dog around my home.

Scores	*Assigned To Score Points*	*Percent At Each Score Point*
1	0	44.8%
2	1 - 2	38.2%
3	3 - 7	16.6%
No Information		.4%
		100.0%

2.10 CUMULATIVE INDEX: Satisfaction With Own Travel Performance

Component Parts of Index, and Weighting Scheme:

Indices	*Weighted Classification*
Self-Evaluation Re: Travel	Low
Motivation Re: Travel	High
Index of Ease of Travel	Low

Weighting Scheme:

The lower third of each index was rated as "positive" on the combined index, indicating dissatisfaction with present travel performance and wish for change.

Scores	*Description*	*Percent at Each Score*
5	Positive on 3 indices	1.8%
4	Positive on 2 indices	10.6%
3	Positive on 1 index	49.3%
2	Positive on none, combination of Med. and Neg.	36.1%
1	Negative on 3 indices	2.2%

2.11 CUMULATIVE INDEX: Travel Difficulties

Items, Weighting Scheme, and Scores:

Items

"We'd like to get some idea of the things that might give you trouble when you travel. Would you consider each of the following and tell me whether it gives you trouble frequently, occasionally, or never:

Running into obstacles
Running into pedestrians
Losing your way
Taking longer to arrive than planned
Losing your balance
Worrying about traffic
Feeling tense or nervous
Trouble with people trying to force help on you
Trouble getting in and out of buses, cars, or trains
Forgetting or mixing up directions."

Weighting Scheme

Each answer of "never" receives a weight of 2;
Each answer of "occasionally" receives a weight of 1;
Each answer of "frequently" receives no weight.
Scores were ranked and then grouped approximately into thirds.
The distribution of these three groups is as follows:

Classification	*Percent in Each Classification*
Most difficulty	34.6%
Medium difficulty	24.6%
Least difficulty	40.8%
	100.0%

2.12 CUMULATIVE INDEX: Self-Evaluation Re: Travel

Items, Weighting Scheme, and Scores:

Item	*Weighted Reference*	*Weight*
1. How easily are you able to get around compared to the average blind person?	More easily	2
	as easily	1
	less easily	0
	don't know	1
2. How efficiently do you travel compared with the average person using your mode?	More efficiently	2
	as efficiently	1
	less efficiently	0
	don't know	1

Score	*Classification*	*Percent at Each Score Level*
0 1	High	17.0%
2 3	Medium	61.7%
4)	Low	21.3%
		100.0%

2.13 CUMULATIVE INDEX: Dog Guide Approval

Indices, Weighting Scheme, and Scores:

Indices Combined in Forming an Index of Dog Guide Approval

1. Care-Maintenance: Acceptance of dog guide care.
2. General Public Image: Public has high positive image of dog guides.
3. Attitude of others to Dog Guide: Acceptance of dog guide by members of family, friends, etc.
4. General Attitude Toward Dogs: Respondent has positive attitude toward dogs.

Scores	*Description*	*Percent at Each Score Point*
6	Highest* on 4 indices	3.6%
5	Highest on 3 indices	14.1%
4	Highest on 2 indices	26.5%
3	Highest on 1 index	31.9%
2	Highest on no indices, but not lowest on all 4 indices	19.1%
1	Lowest on all 4 indices	4.8%
		100.0%

---

* Each of the four component indices was trichotomized into highest, lowest, and medium thirds. Those in the highest third of each index were most favorable to dog guides.

2.14 INDEPENDENCE OF RECENT TRAVEL MODE

Items, Weighting Scheme, and Scores:

Item Description	*Positive Response*
For those who have traveled in immediate neighborhood in the past two weeks:	
Were these trips made by yourself or did you have a sighted guide?	Sighted Guide
For those who have walked at least one-half mile from home in past two weeks:	
Were these trips made by yourself or did you have a sighted guide?	Sighted Guide
Do you go to unfamiliar places or take unfamiliar routes by yourself?	Yes

Respondents were divided into 8 different scoring groups. Those who travel but not by themselves receive lower scores, and those who don't travel at all are scored 1.

Score Groups	*Scores Assigned To Groups*	*Percent at Each Score Level*
Low	1, 2	29.8%
Some	3-6	12.0%
Moderate	7	25.6%
High	8	30.6%
No Information		2.0%
		100.0%

APPENDIX C

TABLE C.1 ESTIMATES OF RESERVOIR COMPONENTS FOR NEW YORK STATE AND CONTINENTAL UNITED STATES

Reservoir Group	*Adjusted Sample** *Freq.*	*Rate*	*K - Adjusted Sample Proportion x k ***	*K x N.Y. State 23,933 ****	*K x U.S. Population 333,260*****
A. Primary	23	.0383	.00969	232	3,268
B. Subsidiary					
(1) Unmotivated	24	.0400	.01012	242	3,413
(2) Situational Difficulties	25	.0417	.01055	252	3,558
(3) Emotional Difficulties	10	.0167	.00422	101	1,423

* Adjusted sample is sample altered to account for planned undersampling of persons whose visual acuity is over 10/200 to 20/200. See Appendix A on Sample.

** k = Number blind (15-54) 1956 + number blind (15-54) 1957 x .879 = .2529
Number blind 1956 + number blind 1957,
where .879 is the proportion of those aged 15-54 who were sampled. Discrepancy is accounted for by institutional population, and by non-residents who were excluded in definition of sample.
Base figures only include persons classified as legally blind, which is less than the number of persons who were registered. An average of two years was taken since sample was drawn in May, 1957, and reported figures are for December 31, 1956 and 1957.

*** New York State: Number of Blind registered and classified as Blind on December 31, 1956 is 23,508; for 1957 it is 24,358. The mean population (actually June, but correction would be an unwarranted elegance) is 23,933.

**** Ralph G. Hurlin's estimate for the United States, 1.98 per thousand ("Estimated Prevalence of Blindness in the United States," American Foundation for the Blind, 1953) applied to estimated population residing in the continental United States, July 1, 1957 (Bureau of Census, Current Population Reports, Series P-25, December 18, 1957).

TABLE C.2 ESTIMATES OF RESERVOIR FOR NEW YORK STATE AND FOR CONTINENTAL UNITED STATES BY SEX AND AGE

	New York State				*Continental United States*			
	Sex		*Age*		*Sex*		*Age*	
	Male	Fem.	15-39	40-54	Male	Fem.	15-39	40-54
Reservoir								
A. Primary	182	50	121	111	2,558	1,423	1,705	1,563
B. Subsidiary								
(1) Unmotivated	141	101	131	111	1,990	1,423	1,847	1,566
(2) Situational Difficulties	171	81	91	161	2,419	1,139	1,281	2,277
(3) Emotional Difficulties	30	71	61	40	427	996	854	569

BIBLIOGRAPHY

BLINDNESS, GENERAL

Barnett, M. Robert, "Attitudes Toward the Blind," *Outlook for the Blind,* XLV, No. 6 (June 1951) pp. 165-169.

Best, Harry, *Blindness and the Blind in the United States,* New York: Macmillan, 1934.

Bindt, Julia, *A Handbook for the Blind,* New York: Macmillan, 1952.

Braverman, Sydell, "The Psychological Roots of Attitudes Toward the Blind," *Attitudes Toward Blindness,* American Foundation for the Blind, Social Research Series No. 1, 1951, pp. 22-32. Also in *New Outlook for the Blind,* XLV (June 1951) pp. 151-157.

Chevigny, Hector, "Clarifying the Concept of Adjustment," *New Outlook for the Blind,* XLVI, No. 4 (April 1952) pp. 107-111.

Chevigny, Hector and Braverman, Sydell, *The Adjustment of the Blind,* New Haven: Yale University Press, 1950.

Cholden, Louis S., M.D., *A Psychiatrist Works with Blindness,* New York: American Foundation for the Blind, 1958.

Cutsforth, Thomas D., "Personality Crippling Through Personal Disability," *Journal of Social Issues,* IV, No. 4, 1948, pp. 62-67.

Cutsforth, Thomas D., *The Blind in School and Society,* New York: American Foundation for the Blind, 1951.

Farrell, Gabriel, *The Story of Blindness,* Cambridge, Mass.: Harvard University Press, 1956.

Geffner, Michael, Ph.D., "A Re-evaluation of our Concept of Blindness," *Outlook for the Blind,* XLIV, No. 3 (March 1950) pp. 73-78.

Hayes, Samuel Perkins, *Contributions to a Psychology of Blindness,* New York: American Foundation for the Blind, 1941.

Himes, Joseph H., "Some Concepts of Blindness in American Culture," *Social Casework,* XXXI, No. 10 (December 1950) pp. 410-416.

Lende, Helga, *Books about the Blind,* (New Rev. Ed.) New York: American Foundation for the Blind, 1953.

Rusalem, Herbert, "Factors in Integrating Blind Persons in the Community," *New Outlook for the Blind,* XLIX, No. 3 (March 1955) pp. 82-86.

Rusalem, Herbert, "The Environmental Supports of Public Attitudes Toward the Blind," *Outlook for the Blind,* XLIV, No. 10, (December 1950) pp. 227-288.

Schauer, Gerhard, M.D., "Motivation of Attitudes toward Blindness," *Attitudes Toward Blindness,* American Foundation for the Blind, Social Research Series No. 1, 1951, pp. 5-10. Also *Outlook for the Blind,* XLV, No. 2 (February 1951) pp. 39-46.

Zahl, P.A., (Ed.) *Blindness,* Princeton, New Jersey: Princeton University Press, 1950.

BLINDNESS, RESEARCH AND STATISTICS

Barr, Sherman, "The Use of the Guide Dog as Reported by 21 Campers at Vacation Camp for the Blind," Master's Thesis, New York School of Social Work, Columbia University, May 1957, (Unpublished).

Bauman, Mary K., *Adjustment to Blindness* (State Council for the Blind, Pennsylvania, 1954).

Berens, Conrad, M.D., and Posner, Adolph, M.D., "The Eye and Its Importance in Relation to General Disease," July 1949. Prevention of Blindness Service, Commission for the Blind, State Department of Social Welfare, New York.

Corbett, Helen and Keld, Joyce, "A Comparison of Adjustment in Blind Guide Dog Users and Non-Users, A Study of Records in Vacation Camp for the Blind," Master's Thesis, New York School of Social Work, Columbia University, May 1957 (Unpublished).

BIBLIOGRAPHY *(Continued)*

BLINDNESS, RESEARCH AND STATISTICS *(Continued)*

Epidemiological and Vital Statistics Report, *The Prevalence of Blindness and Deaf-Mutism in Various Countries,* Geneva: World Health Organization, Vol. VI, (January 1953).

Finestone, Samuel and Gold, Sonia, "The Role of the Ophthalmologist in the Rehabilitation of Blind Patients," New York: American Foundation for the Blind and The Seeing Eye, Inc., 1959.

Gesell, Arnold, M.D., "Development of the Infant with Retrolental Fibroplastic Blindness," *The Field of Vision*—a bulletin for Medical Social Workers, December 15, 1953, IX, No. 1, Commission for the Blind, State Department of Social Welfare.

Gowman, Alan, "Blindness and the Role of Companion," *Social Problems,* Vol. IV, No. 1 (July 1954) pp. 68-75.

Gowman, Alan, *The War Blind in American Social Structure,* New York: American Foundation for the Blind, 1957.

"Guide Dog Training Centers for Blind Persons," Research Center, New York School of Social Work, Columbia University, 1957 (Mimeographed, Unpublished).

Hurlin, Ralph G., Saffian S., and Rice, C. E., "Causes of Blindness Among Recipients of Aid to the Blind," Washington: Federal Security Agency, Social Security Administration, Bureau of Public Assistance, 1957.

Hurlin, Ralph G., "Estimated Prevalence of Blindness in the United States, July 1952; in the Individual States and in the United States," No. 15, New York: American Foundation for the Blind, 1953.

Kerby, C. Edith, *Blindness in Preschool Children,* New York: National Society for the Prevention of Blindness, 1954 (Pamphlet Publication 113).

Norris, Miriam, Spaulding, Patricia J., and Brodie, Fern H., *Blindness in Children,* Chicago: University of Chicago Press, 1957.

Owens, William C., Cox, Elsie M., and Hochreiter, Mrs. Franklyn C., *Why Are They Blind?,* New York. Publication 12, (National Society for the Prevention of Blindness).

Raskin, Nathaniel J. and Weller, Miriam F., *Current Research in the Work for the Blind: A Survey,* New York: American Foundation for the Blind, October 1953.

"Research Suggestions on Psychological Problems Associated with Blindness," prepared by the National Psychological Research Council for the Blind (Washington, D.C., Federal Security Agency, Office of Vocational Rehabiliation, undated).

Rusalem, Herbert, "Research in Review," *The New Outlook for the Blind,* June 1959, p. 232.

Twersky, Jacob, *Blindness in Literature: Examples of Depictions and Attitudes,* New York: American Foundation for the Blind, February 1955 (pamphlet).

"War Blinded Veterans in a Postwar Setting," (Veterans Administration, Washington, D.C.) 1958.

BLINDNESS, SERVICES

Bauman, Mary K., "Diagnostic Procedures in Rehabilitation of the Blind," *Journal of Rehabilitation,* XVII, No. 1 (January-February 1952) pp. 7-11.

Donahue, W. and Dabelstein, D. (Eds.), *The Psychological Diagnosis and Counseling of the Adult Blind,* New York: American Foundation for the Blind, 1950.

Finestone, Samuel, Lowry, Fern, Lukoff, Irving F. and Whiteman, Martin, *Casework and Blindness* (Monograph to be published by the American Foundation for the Blind.)

BLINDNESS, SERVICES *(Continued)*

Finestone, Samuel, "Travel Services for Blind Persons," New York, Research Center,, New York School of Social Work, Columbia University, and The Seeing Eye, Inc. (Mimeographed, Unpublished), 1958.

IHB Optical Aids Service Survey, Brooklyn, New York: Industrial Home for the Blind, September 1957.

Langerham, C. and Redkey, H. (Eds.), *Adjustment Centers for the Blind, Findings of the Spring Mill Conference,* February 1951, New York: American Foundation for the Blind (pamphlet).

"Rehabilitation Centers for Blind Persons: Report of Seminar, New Orleans, Louisiana, February, 1956," Editorial Committee, H. B. Aycock, Arthur L. Voorhees, Kathern F. Gruber (Washington, D. C., U. S. Dept. of Health, Education and Welfare, Office of Vocational Rehabilitation).

BLINDNESS, DOG GUIDE TRAINING

Chevigny, Hector, "A User's View of the Dog Guide as a Travel Aid," *Blindness,* ed. by P. A. Zahl (Princeton, New Jersey: Princeton University Press, 1950) pp. 378-385.

Chevigny, Hector, *My Eyes Have a Cold Nose,* New Haven: Yale University Press, 1946.

Ebeling, W. H., "The Guide Dog Movement," *Blindness,* ed. by P. A. Zahl, (Princeton, New Jersey: Princeton University Press, 1950) pp. 366-377.

Frank, Morris and Clark, Blake, *First Lady of The Seeing Eye,* (New York: Henry Holt & Co., 1957).

Texas Legislative Council, "A Study of the Feasibility of Initiating a Guide Dog Program for the Texas Blind," (Austin, Texas) 1956, (Mimeographed).

REHABILITATION AND PHYSICAL HANDICAP

Barker, Roger G., "The Social Psychology of Physical Disability," *Journal of Social Issues,* IV: No. 4, 1948, pp. 28-38.

Barker, Roger G., Wright, Beatrice A., and Gonick, Mollie R., *Adjustment to Physical Handicap and Illness: A Survey of the Social Psychology of Physique and Disability,* Revis. Ed. Enlarged, New York: Social Science Research Council, 1953.

Cruikshank, William H., "The Impact of Physical Disability on Social Adjustment," *Journal of Social Issues,* IV, No. 4, 1948, pp. 78-83.

Dembo, T., Leviton, G. L., and Wright, B. A., "Adjustment to Misfortune—A Problem of Social-Psychological Rehabilitation," *Artificial Limbs,* III, No. 2 (Autumn 1956) pp. 4-62.

Garrett, James (Ed.) *Psychological Aspects of Physical Disability,* Washington, D. C.: Federal Security Agency, Office of Vocational Rehabilitation, 1952, 194; (Rehabilitation Service Series No. 210).

Meyerson, Lee, "Physical Disability as a Social Psychological Problem," *Journal of Social Issues,* IV, No. 4, 1948, pp. 2-10.

Rusalem, Herbert, "An Organismic Approach to Rehabilitation," *Journal of Rehabilitation,* XVIII, No. 5 (September-October 1952) pp. 4-12.

RESEARCH, GENERAL

Ford, R. N., "A Rapid Scoring Procedure for Scaling Attitude Questions," *Public Opinion Quarterly,* Vol. 14, 1950-51, pp. 507-532.

Katz, E. and Lazarsfeld, P. F., *Personal Influences: The Part Played by People in the Flow of Mass Communication,* Free Press, Glencoe, Illinois, 1955.

Goosen, Carl V., "The Goosen Hidden Intelligence Test," *Public Opinion Quarterly,* Vol. 14, 1950-51, pp. 507-532.

HV1709 c.2
F

Finestone, Lukoff, & Whiteman
The demand for dog guides and the travel adjustments of blind persons.

Date Due			
~~5-17-76~~			

AMERICAN FOUNDATION FOR THE BLIND
15 WEST 16th STREET
NEW YORK, N.Y. 10011